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USSR Report

TRANSPORTATION

No. 113

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AIR

MINISTER BUGAYEV ON DEVELOPMENT OF AEROFLOT

Moscow GRAZHDANSKAYA AVIATSIYA in Russian No 2, Feb 83 pp 2-4

[Article by Ch Mar Avn V. P. Bugayev, USSR minister of civil aviation, marking the 60th anniversary of Soviet civil aviation: "Sixty Heroic Years"]

[Excerpts] The 60th anniversary of civil aviation is being observed at a significant time. Less than 2 months ago, 22 November 1982, the scheduled Plenum of the CPSU Central Committee, which outlined a clear program for the economic and social development of our country in the third, central year of the 11th Five-Year Plan, was held. Comrade Yu. V. Andropov, general secretary of the CPSU Central Committee, delivered an important address at the Plenum. Stressing the continuity of the party's domestic and foreign policy, he gave a principled evaluation of the state plan and budget of the USSR for 1983, made a profound analysis of the condition of the Soviet economy, revealed difficulties and shortcomings in the development of the national economy, and indicated ways and means of overcoming them. The decisions of the Central Committee Plenum and the Seventh Session, Tenth Convocation, of the USSR Supreme Soviet evoked a warm response in the hearts of the Soviet people, aroused the fervent wish of all labor collectives in the country to honorably fulfill the goals of the Motherland, and attracted the close attention of the world public.

Celebration of the 60th anniversary of the formation of the USSR--the world's first indivisible multinational union state of workers and peasants--was an event of immense historic significance. The joint ceremonial meeting of the CPSU Central Committee, the USSR Supreme Soviet and the RSFSR Supreme Soviet which was held in Moscow 21 December 1982 and the report to it by Comrade Yu. V. Andropov, general secretary of the CPSU Central Committee, made a lasting impression on all the Soviet people and our friends abroad. An appeal "To the parliaments, governments, political parties, and peoples of the world" was unanimously approved at this meeting.

Beginning with the single regular air route from Moscow to Nizhniy Novgorod (the city of Gor'kiy), only 420 kilometers long, Aeroflot has now become the world's largest airline. The overall length of our airways has exceeded a million kilometers. They have linked together more than 3,600 cities and populated areas of the country and have reached into dozens of states in Europe, Asia, Africa and America.

On the Moscow-Nizhniy Novgorod line, opened in the summer of 1923 by the famous pilot Ya. N. Moiseyev, 270 passengers and approximately 2 tons of freight and mail were carried in the first 3 and one-half months. Today, in the heaviest summer period, our aircraft carry over a half million people in just one work day. And in a year, Aeroflot serves more than 100 million passengers.

In the summer of 1922, on the former Khodynskoye field in Moscow, the first experiments using aviation in the struggle against harmful plants were conducted. Today the Soviet Union holds first place in the world in the use of airplanes and helicopters in agriculture and forestry. Every year an average of 100 million hectares of our agricultural and forest resources are treated by the airborne chemical process. The airplanes and helicopters of Aeroflot have become a permanent part of the landscape of the Arctic and Antarctic, are reliably serving the petroleum workers of Western Siberia and the diamond miners of Yakutia,and are actively helping the builders of the Baykal-Amur Mainline Railroad, the reindeer breeders of Chukotka, the fishermen of Kamchatka and Sakhalin--in a word, they are performing a mass of substantial and important work, without which normal functioning of the country's national economic complex is impossible.

The greatest progress was achieved by civil aviation in the 1970's. Aviation workers began inspired by the high evaluation of their labor given by the Communist Party and the Soviet State on the day of the 50th anniversary of our sector. Then, on 9 February 1973, together with the Order of Lenin, with which civil aviation had been honored in connection with the 40th anniversary of its founding, one more high state decoration was attached to Aeroflot's banner--the Order of the October Revolution. Ten aviation collectives also were decorated with orders. The rank of Hero of Socialist Labor was awarded to 20 production leaders. As many received the honorary titles "Honored Pilot of the USSR" and "Honored Navigator of the USSR." Orders and medals were awarded to 1,700 aviators.

The high awards of the Motherland gave rise to a vast political and labor upsurge in aviation workers' collectives. A patriotic movement took shape everywhere for successful fulfillment of plan targets and increased socialist pledges were approved. As a result, the state plan for the 9th and then the 10th Five-Year Plans were fulfilled by Aeroflot ahead of schedule. More than 895 million hectares of area were treated with airborne chemicals in agriculture and forestry. Civil aviation had not experienced such a volume of operations in its entire history.

Air transport has firmly held second place after rail transport in the country's unified transportation system for passenger turnover in interurban service. Its share is now 33 percent of the total volume of passenger travel, and on routes such as Moscow-Khabarovsk, Moscow-Irkutsk, Moscow-Tashkent and Moscow-Alma-Ata, it is 60 or 80 percent or more.

Particular attention has been devoted to transportation in the regions of the Far North, Siberia and the Far East. Each year these regions are more and more actively involved in national economic turnover and without a far-flung network of airfields to ensure reliable travel there by modern passenger and cargo aircraft, we cannot manage. By building and renovating airports in Krasnoyarsk, Vladivostok, Magadan, Pevek, Petropavlovsk-Kamchatskiy, Yakutsk and other cities, aviation workers have been resolving an important socioeconomic problem--they have substantially improved air communications with Moscow, large industrial and cultural centers, and resort areas of the European part of the USSR. In the future as well, we will be devoting the closest attention to the development of civil aviation in nearly inaccessible and remote regions.

Much has been done in Kazakhstan and Central Asia. In Alma-Ata and Tashkent, modern air terminal complexes have been built. A new airport has been commissioned in Frunze. All oblast centers of the Kazakh SSR and the majority of such centers in the Central Asian republics have received airports [vozdushnyye gavani] capable of accommodating modern jet aircraft. The transportation problem in mountainous Tajikistan has been resolved successfully with the aid of aviation.

The Moscow air transport hub [aerouzel] has undergone important renovation. On the eve of the 22d Olympic Games, Sheremet'yevo International Airport was equipped with the latest air terminal complex. The air terminal complex at Vnukovo has been fundamentally reorganized. Important production projects have been commissioned at the Domodedovo and Bykovo Airports.

In all, more than 150 air terminals and passenger waiting areas [pavil'ony] with a total capacity of over 40,000 persons hourly were put into operation in the 9th and 10th Five-Year Plans at the country's airports. They include airports such as Leningrad, Riga, Tallin, Dnepropetrovsk, Murmansk, Surgut, Vladivostok, and many others. Dozens of hotels and air ticket sales agencies, warehouses and other facilities have been built. All this has helped appreciably to raise passenger service standards and to speed up the handling and dispatch of priority freight and mail from airports.

Updating the fleet of aircraft has been continued according to plan. The more modern Tu-134, Tu-154 and Il-62 aircraft have appeared on the airways to replace the obsolete Tu-114, Tu-104, Tu-124 and Il-18 aircraft, which have finished their service lives. At present, the former carry three-quarters of the total number of Aeroflot passengers. At the end of the last five-year plan, the 350-seat wide-body Il-86 airbus and the 120-seat Yak-42 boarded their first passengers. Airports of local air services were replenished by the comfortable L-410 "microbus," made in Czechoslovakia. The Il-76, which is being used successfully in rayons of the Tyumen' North, Krasnoyarsk Kray, and Eastern Siberia, and on international routes, has proved itself well in transporting large-size cargo. The helicopter fleet also has been updated. The heavy Mi-8, Mi-6 and Mi-10K hold an important place in this.

Automated control systems have been further developed. Electronic computer complexes are helping to put together a central schedule of air traffic, to regulate material and technical supply, and to manage aircraft maintenance. The first mass passenger service system in the Soviet Union, "Sirena," which has made it possible to significantly simplify seat reservations and ticket sales, was established on the basis of an EVM [computer]. The experience accumulated in its operation has provided the opportunity to begin developing a more improved system which will cover practically the entire country.

Automation and electronics are being widely used to solve navigational tasks and to safeguard landings of aircraft under reduced weather minimums. They are being used more and more confidently in air traffic control, facilitating the work of controllers and flight supervisors, and increasing the quality and reliability of the UVD [air traffic control] system.

The wide introduction in production of the achievements of scientific and technical progress would be impossible without the mighty scientific potential which our sector has at its disposal, as well as without the highly skilled flight and engineering and technical personnel. We have five scientific research institutes and the Main Computer Center working on the needs of production. They are conducting a large amount of research aimed at determining the future prospects of civil aviation and the creation and assimilation of new aircraft , improving the efficiency of air shipments and the application of aviation in the national economy, and solution of many other urgent problems.

As long ago as a quarter century, we could only dream that we would have specialists with the highest professional training flying our aircraft. At present, the overwhelming majority of the commanders of heavy aircraft have the diplomas of engineer-pilots. Altogether in Aeroflot, more than 40 percent of the employees have higher and secondary special education.

Guided by our party's foreign policy course, Aeroflot is continuously developing international aviation ties. The fundamental place in them has been and is being held by close cooperation with fraternal socialist countries. A reliable foundation of this cooperation has become the Complex Program of Socialist Economic Integration and the long-range special-purpose programs of cooperation in important directions of civil aviation activity which have been developed on its basis.

Aviation ties are being expanded with the countries of Asia, Africa and Latin America which have followed the road of independent development. The Soviet Union also is engaged in mutually beneficial aviation collaboration with capitalist states and is taking an active part in the activity of the International Civil Aviation Organization--ICAO--which unites 146 states.

A great and glorious path has been taken by civil aviation in the Land of the Soviets over the past 60 years. We have accomplished a great deal and our progress is unquestioned. But at the same time, aviation workers well imagine that even more activity, even more difficult and intense work, lies ahead of us.

The program of action that has taken shape for every aviator, as well as for all the Soviet people, consists of the decisions of the November (1982) Plenum of the CPSU Central Committee and the Seventh Session, Tenth Convocation, of the USSR Supreme Soviet, and the specific and precise directions contained in the speeches at the Plenum and the report to the joint meeting of the CPSU Central Committee, the USSR Supreme Soviet, and the RSFSR Supreme Soviet by Comrade Yu. V. Andropov. These documents of historic importance define the main questions and problems , the solution of which will determine the success of work not only in 1983, but throughout the 11th Five-Year Plan.

To begin with, as noted at the Plenum, responsibility must be reinforced in all production sectors for the observance of state and public interests, the departmental and seniority approach must be decisively eradicated. and we cannot put up with violations of party, state and labor discipline. All available reserves at our disposal must be mobilized and mismanagement and wastefulness must be eliminated. At the same time, this task can be carried out only with the participation of each one of our workers. From this follow the still increasing requirements for a labor contribution by every Soviet person.

"It is necessary to create the conditions--economic and organizational," emphasized Comrade Yu. V. Andropov in his speech at the Plenum, "which would provide the incentive for high-quality, productive labor, initiative and enterprise. And vice versa, poor work, inertia and irresponsibility should affect the economic remuneration, official position, and moral authority of employees in the most direct and inevitable manner."

Concern was expressed at the Central Committee Plenum about the state of affairs in transportation, particularly in rail transport. We also must work better to meet public demand and the needs of the national economy for transportation, steadfastly improve services for passengers and freight shippers, and improve flight safety and regularity. The main criterion by which we must evaluate our work is the degree to which continuously increasing public demands are met by our sector.

At a recent conference of command and supervisory personnel and production leaders we discussed in detail the tasks for 1983 and outlined ways to implement them. It was noted that the efforts of supervisors of all ranks, party and public organizations, and every aviator must be concentrated on acceleration of scientific and technical progress, improvement in capital construction, more efficient use of material and manpower resources, and the training of each member of a collective to have a really thrifty attitude toward public property. The efficient use of aviation fuel requires particular attention. It may be stated without exaggeration that the fate of the state plan for 1983 and the five-year plan as a whole depends to a decisive degree on this.

Planning, work on improving the economic mechanism, and management of the activity of aviation enterprises, maintenance plants, and organizations of civil aviation require further improvement. In addition, we also are bound by the CPSU Central Committee and USSR Council of Ministers decree "On improving the planning and organization of the transportation of national economic freight and passengers and reinforcing the influence of the economic mechanism on improvement in the work efficiency of transport enterprises and organizations."

The peculiarities of air transport work require of each aviator strict observance of established standards and rules and the best organization and highest discipline. This is why the struggle to improve work in civil aviation is a struggle for model procedure, a struggle for efficiency and coordination of all the links in our complex aviation production line [konveyer].

All ideological and political work in aviation collectives must be subordinate to the forming of high workmanlike and moral qualities in Aeroflot employees, a sense of responsibility for work assigned, and constant vigilance. It is necessary that politically mature, competent persons who show initiative and are incapable of compromising with duty and conscience be in all sectors of production, especially those which are directly connected with the organization and conducting of flights.

A tested means of mobilizing workers to fulfill state goals is socialist competition. We have many examples in civil aviation where well-organized labor rivalry is producing remarkable results. Shock work by the collectives of the Volga Region [Privolzhskoye] and Uzbek Administrations which, in accordance with the results of socialist competition honoring the 60th anniversary of the formation of the USSR, were awarded the Red Banners of the CPSU Central Committee, the USSR Council of Ministers, the AUCCTU and the Komsomol Central Committee and recorded on the All-Union Board of Honor at the USSR VDNKh [Exhibition of Achievements of the National Economy], persuasively attests to this. The labor successes of aircraft maintenance plant No 404, which also was awarded the Red Banners of the CPSU Central Committee, the USSR Council of Ministers, the AUCCTU and the Komsomol Central Committee, indicate the same thing. In socialist competition among the sector's enterprises, the Azerbaijan and North Caucasus Administrations, the Central Regions and Arctic Administration, and many other labor collectives have more than once held prize positions. We must also continue to develop the creative activity of the masses, support in every possible way valuable initiatives and innovations, and create the appropriate conditions for fulfillment of the pledges made by aviation employees.

Measures to implement the Food Program hold a central place in our party's plans. As noted at the May and November (1982) Plenums of the CPSU Central Committee, implementation of the Food Plan is a nationwide task. In the struggle to put it into effect, all sectors of the national economy must take part.

Civil aviation employees are not standing aside from this great state task. Nevertheless, it should be pointed out that there are still many unutilized reserves in this important sector, too. They also exist in the organization of airborne chemical treatment operations and in the activity of flight collectives engaged in delivering agricultural products to residents in the North, the Far East and Siberia. Finding these reserves and beginning to put them to work means making our fitting contribution to the work of the general public and the party.

International air transportation is a large and important part of the work of civil aviation. Aviators are faced with doing a great deal to further develop air links between the USSR and other states. We will continue in the future to reinforce collaboration with fraternal socialist countries, render assistance to the aviators of young developing states, and openly and honestly cooperate with all countries which respond to us with reciprocity.

In the 60 years since its formation, Soviet civil aviation has reached vast heights. It has become a permanent part of the life of every union and autonomous republic, all krays, oblasts and okrugs of the country. The airplanes and helicopters which evoked surprise among the residents of many cities and villages have become an important means for developing economy and culture and reinforcing the fraternal friendship of the peoples of the USSR.

Our winged sector now is entering a new stage in its history. It is defined by the historic decisions of the 26th CPSU Congress, by subsequent Central Committee Plenums, and by the Program for Development of Civil Aviation in the 11th Five-Year Plan and the Period up to 1990. The tasks which face us are large and important, and there is much work ahead. But there isn't the slightest doubt that they will all be successfully carried out. A true guarantee of this is the rich experience of past decades and the filial devotion of the employees of the twice-decorated Aeroflot of our beloved socialist Motherland, and the steadfast loyalty to the work of the Leninist party and the work of communism.

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AIR

CIVIL AVIATION MINISTRY OFFICIALS ON OCCASION OF AEROFLOT'S 60TH ANNIVERSARY

First Deputy Minister Nazarov Interviewed

Moscow SOVETSKAYA ROSSIYA in Russian 13 Feb 82 p 6

[Interview with A. I. Nazarov, first deputy minister of civil aviation; date and place not specified]

[Text] [Question] Aleksandr Ignat'yevich, with what achievements are aviation workers greeting the branch's 60th anniversary and Aeroflot Day?

[Answer] Civil aviators have completed the state targets of the 11th Five-Year Plan's second year ahead of time. A total of 108 million passengers and more than three million tons of urgent economic freight and mail have been transported.

Our crews are taking an active part in developing the country's most important territorial complexes -- the Timano-Pechorskiy, Angaro-Yeniseyskiy, Sayanskiy, Yuzhno-Yakutskiy, and others. Western Siberia.... The center of the country's gas and oil production industry has been transferred here during recent years. Six cross-country gas pipelines begin here, in the north of Tyumen Oblast. Quite a few airplanes and helicopters were engaged in their construction. Aeroflot is also supporting the search for mineral resources. Aerial photographs, guiding vessels through the ice, reconnoitering for fish and sea animals, protecting forests, medical support of the population, the work of scientific expenditions in the Arctic and Antarctic -- this is a short list of the work being performed by us.

During the past year, 103 million hectares were treated in agriculture using aviation chemical methods. In this manner, the aviators are making their contribution to the realization of the Food Program. I would emphasize that three-quarters of the overall growth in the volume of work was obtained by increasing labor productivity.

[Question] When mentioning the impressive figures and when telling about the work volume of machines with the inscription "Aeroflot" -- which is familiar to each one of us -- on their sides, it is probably worthwhile to recall the main landmarks in the development of civil aviation....

[Answer] Here are two facts, which are separated by six decades, for comparison. The first regular air route, Moscow-Nizhniy Novgorod, in the country was opened in 1923. A total of 270 passengers and 85 pounds of newspapers and mail were transported over this route, which was 420 kilometers in length, in six-seater "Ul'timatum" aircraft during three and a half months.... Such was the first step. Now, the data for the Gor'kovskiy Airport of 1983. It is a large air "harbor" that is connected by air routes of communication with 60 cities, including the capitals of 11 union republics. Its present traffic capacity is approximately one and a half million passengers a year.

During the years of the Great Patriotic War, subunits of the civil aviation fleet transported 2,350,000 soldiers and officers, 278,000 tons of military cargo, completed tens of thousands of flights into the enemy's rear....

The postwar period is connected with the introduction of aircraft which were equipped with gas turbine engines. The turbojet Tu-104 was the first sign of them. Subsequently, air transport was replenished with second generation jet aircraft -- the Il-62, Tu-154 and Tu-134. They now transport approximately 75 percent of the passengers.

Here are the latest figures. Today, the overall length of the air routes exceeds a million kilometers. They link together 3,600 cities and population centers. Our aircraft regularly fly to more than 100 cities in 93 states....

[Question] What place does the servicing of the Russian Federation occupy in Aeroflot's overall work volume?

[Answer] A total of 16 civil aviation territorial administrations are concentrated in the republic. They perform 80 percent of Aeroflot's work volume and 65 percent of its air freight. During the 9th and 10th Five-Year Plans, these aviation enterprises transported 590 million passengers and 19 million tons of national economy cargo.

Let us take the Far East Administration which services the Khabarovsk and Maritime Krays and the Amur, Kamchatka and Sakhalin Oblasts. This is an enormous region in those life civil aviation plays a very important role. Approximately six million people live here. Annually, more than five million of them use Aeroflot's services.

A great deal of construction is now taking place on the "edge" of the map of the country. It has also touched us. The reconstruction of the Far East's chief aerial "harbor" -- Khabarovskiy Airport -- is being completed. Together with a new runway which is calculated to take all types of aircraft, it will receive an air terminal with a traffic capacity of 1,500 passengers per hour and an auxiliary structure complex. An automated system for controlling air traffic with a new air-traffic control tower and a centralized station for refueling aircraft will be put into operation.... The reconstruction of the Vladivostokskiy and Yuzhno-Sakhalinskiy airports will soon be completed. The first of them will begin to accept Il-62 aircraft, and the second -- Tu-154. The operation of the Il-62 has been mastered at the

Petropavlovske-Kamchatskiy Airport, from where they complete non-stop flights to the capital of our motherland. Direct trips to Moscow in the Tu-154 have been inaugurated from the airport in Blagoveshchensk. In a word, 40 percent of all air transport work now takes place in the Far North, Siberia and the Far East.

[Question] What tasks face civil aviation in the near future?

[Answer] These tasks can be formulated briefly as follows: a radical improvement in the work of satisfying the requirements for passenger and cargo transportation. This was talked about during the November 1982 CPSU Central Committee Plenum. A firm course towards the intensification of production has been taken in the branch. This assumes better use of existing and forthcoming equipment, the reconstruction of airports, and the improvement of air-traffic control technology.

[Question] Many of our readers ask: What specifically new routes have been inaugurated or are being inaugurated in the near future? What awaits air passengers in improved comfort in the air and on the ground?

[Answer] The geography of flights by aircraft, which possess a large passenger-carrying capacity, is being expanded. Thus, Il-62 aircraft have begun to fly from Moscow to Krasnoyarsk and Magadan, from Leningrad to Khabarovsk, and from Khabarovsk to Tashkent. They will soon be accepted in Yakutsk and Norilsk. Tu-154 aircraft have linked the central regions with Tyumen, Chelyabinsk, Sverdlovsk, Pevek, Anadyr, and many other cities. Our largest liner, the Il-86 (it carries 350 passengers) which became operational on air routes at the end of the 10th Five-Year Plan, is now operating in five airports -- Moscow, Tashkent, Mineralnyye Vody, Novosibirsk, and Rostov-na-Donu.

The construction of new air terminals and passenger service complexes is continuing. Air terminals in Groznyy and Yerevan were commissioned recently. The creation of modern air terminals is planned for Sochi, Syktyvkar, Baku, Ashkhabad....

[Question] In congratulating you and all the workers of the branch on the holiday, the editorial board wishes that everything will be quick, reliable and comfortable on Aeroflot.

First Deputy Minister Panyukov

Moscow IZVESTIYA in Russian 12 Feb 83 p 2

[Article by B. Panyukov, first deputy minister of the USSR civil aviation: "At the Service of the National Economy"]

[Text] This year Soviet civil aviators are celebrating their professional holiday -- Aeroflot Day -- simulataneously with an important date -- the 60th anniversary of the formation of the Civil Aviation Council. The decree creating it, which was adopted on 9 February 1923 on the initiative of Vladimir Il'ich Lenin, permitted the consistent and thorough development of air transport to be begun in our country.

Today, the aviators annually transport more than 100 million passengers and more than 2.5 million tons of urgent freight over the air routes of the Soviet Union, and they treat more than 100 million hectares of sown land and forest tracts with their winged machines. Within the overall passenger turn-over volume of our inter-city transport, aviation firmly holds on to second place after the railroads. In other words, a third of all long-distance passenger transportation is now accomplished through the air -- the quickest and most comfortable method.

During recent years, the material and technical base of the branch has significantly expanded and become qualitatively stronger. Modern comfortable aircraft, the Il-62, Tu-154 and Tu-134, are taking an ever larger share in the overall volume of air transport work. The share of air transport in these aircraft has grown to 70 percent. The average speed of delivering passengers has also increased. This means that millions of man-days of useful time have been saved.

The main goal of all the work to improve air transport is to satisfy in every way possible society's requirements for its services. Every year, we are increasing the number of non-stop trips (especially on long-distance routes), improving methods for servicing passengers, and enhancing the comfort of air travellers. This work is continuing.

The Soviet Union has become a country almost universally linked by air routes. A total of 3,600 cities and population centers are today linked by a single system of air lines of communications. Solid and regular communications between the center of our country and the rayons of Siberia, the Far North, the Far East, and Central Asia have been set up. The length of Aeroflot's air routes has exceeded a million kilometers. In a word, air transport has become an inseparable part of the life of each republic and is actively contributing to their economic and cultural development and to the strengthening of the fraternal friendship of the peoples of the USSR.

The introduction of the first native wide-body Il-86 airplanes, which are intended for operations on lines with the largest number of passengers, signifies a qualitatively new stage in the scientific and technical progress of Soviet civil aviation. Passenger trips from Moscow to Tashkent, Mineralnyye Vody, Leningrad, Simferopol, Novosibirsk, and Rostov-na-Donu are being carried out in them. The Il-86 has also mastered international routes, having received the general recognition of passengers who have used the services of Aeroflot.

Today, civil aviation is a long-term and multipurpose branch of the national economy. Its role in solving the country's important social and economic tasks is great. An example of this is the active and diverse participation of aviation in the development of the new -- almost inaccessible and remote-- regions of Siberia, the Far East and the Far North and in the prospecting for and development of oil and gas deposits.

Here, a large role belongs to helicopters. There, where an aircraft cannot land, the rotary-winged machine truly becomes indispensable. Aviators are performing more than 100 types of operations in the national economy.

Civil aviation has become an important component technological link in the industrial activity of the different branches. As a matter of fact it is carrying out the task, which was assigned by the 26th CPSU Congress, of improving coordination between transport and the branches of the national economy.

Aerial communications occupy an important place in the broad program of our state's foreign connections. In making a contribution to the strengthening of international air cooperation for the sake of strengthening peace and improving the relaxation of tensions, Aeroflot conducts regular flights to 115 cities in 93 countries of the world. Our cooperation with the fraternal socialist countries is developing especially fruitfully.

The decisions of the 26th party congress and November 1982 CPSU Central Committee Plenum have provided a new impetus for the further development of air transport. The growing political and work activity of aviators and their readiness to work in an urgent manner provide the basis for saying that the plans,which have been assigned by the party to Aeroflot, will be fulfilled.

Aviation workers have successfully coped with the plan for the first two years of the 11th Five-Year Plan and have also carried out their socialist obligations. It has already been reported in the press that our collectives are progressive ones-- the Azerbaydzhanskoye and Severo-Kavkazskoye Administrations, Magadanskiy and Surgutskiy Aviation Detachments and the Kremenchugskoye Flying School have been awarded decorations in connection with Aeroflot's 60th anniversary. A large detachment of aviators have been honored with high awards from the motherland, and 15 of the best ones have been awarded the title of Hero of Socialist Labor. This is a high rating for the work of the aviators. It is also an expression of high trust and confidence that the branch will work even more effectively.

A great deal of strenuous work faces the many-thousand strong collective of aviation workers in 1983. It is planned to transport 105 million passengers, 400,000 tons of mail and 2,650,000 tons of urgent national economic freight.

The network of airports,which are capable of handling Il-86, Il-62 and Tu-154 aircraft, is being expanded. In the near future, it is planned to inaugurate regular communications in Il-86 between Moscow and Sochi, Sukhumi and Kemerovo and between Leningrad and Simferopol, Mineralnyye Vody, Sochi, Kiev, and Rostov-na-Donu.

The operation of the union-wide "Sirena-2" automated control system for the sale of tickets and for reserving seats is being expanded. Its first phase with a control center in Moscow was put into operation at the end of 1982. Leningrad, Kiev, Minsk, Riga, Sverdlovsk, Kuybyshev, and Lvov will be plugged into this system during the five-year plan.

New types of on-board services are receiving even larger dissemination. During this year alone, an air terminal in Kazan and passenger service buildings in Magadan and Chokurdakh have become operational in order to improve the servicing of passengers. A number of new air terminals will be opened during subsequent years.

Just as during previous years, the aviators, who service the branches of the national economy are faced with performing a large program of work For example, they must treat 96 million hectares of land from the air in in villages alone.

Unfortunately, complaints about the unsatisfactory handling of passengers -- especially during periods of mass transportation -- and about violations of flight schedules are still arriving. Knowing these shortcomings, we are taking steps to eradicate them. As was pointed out during the November 1982 CPSU Central Committee Plenum, today -- as never before -- organization, efficiency, discipline, and teamwork in the work in each sector of production are important.

The critical and important tasks, which the branch must carry out during the 11th Five-Year Plan, are within the capabilities of the workers of the twice decorated Aeroflot in whose ranks more than 200 Heroes of the Soviet Union and Heroes of Socialist Labor, more than 500 USSR honored pilots and honored navigators, and dozens of USSR state prize and Leninist Komsomol prize winners are working.

The Aeroflot collective is ready to carry out the tasks, which have been assigned to it by the party and the government, and is ready to work in the name of our great socialist motherland's well-being.

Deputy Minister Mashkivskiy Interviewed

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 13 Feb 83 p 1

[Interview with I. Mashkivskiy, deputy minister of civil aviation; date and place not specified]

> [Text] Sixty years of civil aviation have passed in our country. The period is not so great, but a great deal has been done during this time.
>
> Aeroflot's routes today connect practically every large city in the world
>
> I. Mashkivskiy, deputy minister of civil aviation tells about Aeroflot's prospects and scientific and technical progress in the branch

[Question] Ivan Yefremovich, very likely because of the nature of your work you must often have occasion to play the role of a passenger. What specially troubles you when you have occasion to fly on a usual business trip?

[Answer] Just as any passenger -- taking off at the designated time and arriving on time. There are no special planes for deputy ministers, and the weather is not ordered. In a word, there are no special conditions.

[Question] What is included in the concept of passenger service?

[Answer] It is the end result -- as they say, our net production. For this, it is necessary to solve a very complicated set of tasks. With the help of scientists and relying on the latest achievements of science and technology. Here, I would put the constant updating of the aircraft fleet and the broad incorporation of new and more productive machines, which are spacious and comfortable, in the first place.

With the arrival of wide-body Il-86 aircraft on routes, transportation has been raised to a qualitatively new level. This machine is building a reputation, and is both conquering the air space and winning the love of the passengers. You will agree, however, that without scientific and technical progress and without a forecast of tomorrow's requirements for passenger transportation we can be transformed into people who are marking time.

[Question] Is it possible -- even if only in general terms -- to tell about the aircraft which will replace the present ones in time?

[Answer] Certainly. New long-range and medium-range mainline aircraft will begin to operate in the air by the end of the Eighties. It will be possible to transport a larger number of passengers to distances of 8,000-9,000 kilometers. We are placing special hopes on the medium-range mainline aircraft which, according to our forecast, will be one of the most popular in Aeroflot and which will perform about one-third of the total volume of passenger transportation by the year 2000.

There is one other thing I would like to point out. The new long-range and medium-range mainline aircraft will require considerably less aviation fuel. With, of course, the necessary performance of the planned haulage volume.

[Question] New machines will also appear on local air routes?

[Answer] Yes, of course. Research, which has been conducted in our leading branch institute -- the State Civil Aviation Scientific Research Institute, has shown that the aircraft fleet of local air lines should consist of three types of craft having a capacity of 15,30 and 60 passengers. As is known, An-2, L-410, An-24, and Yak-40 aircraft are operating here today.

A new airplane is being created to replace the Yak-40. It will transport 30 passengers to a distance of 800 kilometers. The modern and comfortable An-28 aircraft will replace our honored veteran, the An-2. It will be able to operate on runways with a length of up to 600 meters.

[Question] Naturally, the new equipment should "pull up" standards on the ground...

[Answer] Undoubtedly. It is necessary to admit that we have serious problems here. For example, the time that an aircraft is on the ground is still great. You see, an enormous potential for increasing efficiency in using aircraft and for keeping flights on time lies in decreasing this. How to bring it about?

The movement of baggage in containers is considerably decreasing the time that passengers stay in airports. This permits loading and unloading to be mechanized and spares the arriving passenger a wearisome wait and a futile waste of time. For example, the introduction of container shipping in the Vnukovo and Bykovo airports and in Tashkent and Krasnodar permits a passenger to obtain his luggage almost immediately after his arrival at the air terminal.

More than 20 air terminal complexes have been put into operation during recent years. Among them are the Vnukovo and Sheremetyevo Airports and those in Tallin, Frunze, Semipalatinsk, and many other cities. It is planned to construct large complexes in Khabarovsk, Yakutsk and Karaganda.

The construction of new air terminal complexes is one of the most important links in the scientific and technical progress of civil aviation. Here is one example. Conditions have been created for a simplified method for registering passengers in 30 airports thanks to the introduction of new complexes. This has provided the capability for shortening their stay in the airport by up to 40 minutes.

Here, one cannot fail to mention the important role of automation in the sale of tickets and in reserving seats on aircraft. Our specialists and scientists have done a great deal to improve the operating quality and reliability of the "Sirena" automatic system for selling tickets. Further scientific research on automating the sale of tickets is being performed....

[Question] I am confident that the problem of a flight's dependence on weather conditions disturbs every passenger. Alas, how often have we had occasion to hear that a trip is being delayed for this reason. Is there any hope of solving this problem?

[Answer] There is such a hope. It is possible only through automating the landing approach process and the landing itself. As they say, whether you wish it or not there is no other way. Scientific research and work experience under minimum landing conditions show that the problem of supporting a landing under complicated meteorological conditions is multifaceted. In the first place, it is necessary to create and introduce sets of onboard and ground technical landing support systems. I am not promising that the weather will become child's play for us tomorrow, but this task is being solved seriously with the help of science. And I am confident that it will be solved in the very near future.

8802
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CIVIL AVIATION MINISTRY'S ULYANOVSK INTERNATIONAL FLIGHT TRAINING CENTER

School's Activities

Moscow PRAVDA in Russian 21 Feb 83 p 4

[Article by A. Gorokhov and L. Chausov, PRAVDA special correspondent, Ulyanovsk-Moscow: "Report from International Center for Aviators of CEMA Member Nations: Air Academy"]

[Text] ...The powerful jet engines come up to the power setting one after the other and a light quiver runs along the aircraft's body. Needles on the instrument panel with a mosaic of switches and displays vibrate slightly.

The throttle quadrants are fully forward and the calm baritone of the controller is heard in the headsets: "85015! Permission to take off!"

Our task is to make a circuit of the airfield. It is an ordinary training flight, but the palms grip the control wheel more firmly: it is not every day that one has occasion to take the places of the commander and navigator in the pilots' cockpit of a mainline TU-154. By the way, an experienced pilot, Pilot 1st Class V. S. Denisenkov, is nearby. In his presence one feels more confident. After all, the veteran has 10,000 flying hours behind him and has been teaching young people to fly for 30 years.

The aircraft confidently begins the take-off run. Speed increases quickly--100, 150, 200 km/hr. The dotted center line on the gray concrete merges into a solid white strip. The ground rushes headlong beneath the fuselage. Finally we reach unstick speed--260. "Crew, we're taking off!" It is as if the winter horizon disappears somewhere. A minute later the liner hovers in a whitish haze.

We will say right away that the flight ended very safely, inasmuch as we were "flying" on the ground, in one of the simulators of the Center for Joint Training of Flight, Technical and Controller Personnel of Civil Aviation of CEMA Nations, the first section of new construction sites of which recently was placed in operation in Ulyanovsk.

Age-old traditions of cooperation among aviators of fraternal countries underwent the test of time. In the late 1970's a long-term special program for cooperation in development of transportation ties of CEMA member nations in the field of civil aviation was drawn up on the basis of the Integrated Program of Socialist Economic Integration. It takes in various aspects of the aviation service.

As a matter of fact, the International Scientific-Experimental Air Traffic Control Center was created in Moscow. A plant will be built on Soviet Union territory for preparing long-range and medium-range mainline aircraft. In the future is the start-up of a complex of automated systems for seat reservations and ticket sales on international airlines and the creation of a center for organizing (planning) flows in a unified air traffic control system, not to mention the Ulyanovsk international "air academy," from which we are making this report.

Together with the center's chief, Honored Pilot of the USSR P. P. Mushtatov, we walk through the bright classrooms and cozy training rooms of the new laboratory training complex and through the comfortable halls of a roomy 13-story hotel, and we inspect other underway projects. My companion explains that the educational institution, which has nothing like it in world practice, was created on the basis of the Ulyanovsk Advanced Flight Training School. Representatives of airline companies already of more than 30 countries, including from Asia and Africa, perfected their expertise on the banks of the Volga.

In just the last six years hundreds of crew members from fraternal states have undergone retraining here in new airships. The Bulgarian "Balkan" and the Hungarian "Malev," "Interflug" from the GDR and the Cuban "Cubana," the Polish "Lot" and the Czechoslovak "CSA"... These and other companies of our friends have a staff of specialists who received good schooling on the Volga. From now on, with the commissioning of the center's first section, even broader horizons open up for mutually advantageous cooperation of aviators of socialist countries.

"The constant replenishment of the aircraft inventory of CEMA countries with new equipment and the rapid growth in volumes of air movements, including international movements, advance higher demands for the training of highly skilled aviation specialists," the honored pilot continues his narrative. "This is why a general agreement was concluded in 1974 for erecting a new educational institution through common efforts. Several Soviet cities laid claim to the role of hospitable hosts, but Ulyanovsk was chosen. The fact is that there already was a suitable physical facility here and a collective of experienced and capable teachers had formed."

A permanent methods council was set up here including the representatives of all countries which created the center. With its help specialists are trained in 15 kinds of training and an increase in their professionalism and reliable cohesiveness of the "crew-airship" link is assured. The fundamental principles of such training were determined at one of the council sessions in Warsaw, and then they were made the basis of the "Provisions for Training Aviation Specialists in the Joint Training Center."

The airfield complex of the "air academy" lives a full life. It allows the operation of all types of modern air transports. Mighty IL and TU aircraft soar into the sky one after the other, breaking the silence. This year the center also will receive the widebody IL-86.

Students share their impressions with us: TU-154 copilot Gabor Bodor from Hungary, navigator Andre Wend from the GDR, his Cuban colleague Enrique Bestard and TU-134 commander Pilot 1st Class Vladimir Anisimov of Minsk. They are unanimous in saying that the level of instruction and the center's technical outfitting permit successful mastery of new aircraft in a short time period, and not only retraining, but undergo "schooling" in friendship and mutual help.

We already had occasion to meet many participants of the unique holiday of aviators on the banks of the Volga last month in Moscow, where the regular 15th session of the CEMA Permanent Commission on Cooperation in Civil Aviation was held.

Ladislao Baranda, deputy minister of transportation of the Republic of Cuba, says, when the talk turns to the recent 20th anniversary of establishment of air service between the USSR and the Island of Freedom: "This is not simply a jubilee for Cubans, but an event of great political importance. We highly esteem the courage and proficiency of Soviet pilots, who at that time were able to establish an intercontinental air bridge under difficult conditions, organize it and maintain it firmly over two decades. Creation of the joint training center will permit us to be more successful in resolving problems of preparing highly skilled specialists for our republic's growing aviation. Here on the Volga dozens of Cuban aviators already have been trained. Their level of training is beyond all praise..."

Dimitr Dimitrov, general director of the Bulgarian "Balkan" air company, singles out in particular in a conversation the circumstance that the international center is functioning in the homeland of Vladimir Il'ich Lenin. Here students also receive a firm ideological-political conditioning in addition to specialized knowledge. This idea is supported by Deputy Chairman of the Council of Ministers of the Mongolian People's Republic Choynoryn Suren; by Jerzy Rakowski, chief of a main administration of civil aviation of the Polish People's Republic; Irzi Nulicek, director of the civil aviation administration of the CSSR (we will recall that the Czechoslovak specialists were the first foreign students of the future center in 1956); and other foreign representatives.

One other refrain of our conversations is the overall conviction that the joint implementation of major international projects is very productive, since national and international interests harmoniously combine in them and principles of voluntariness and equal rights are observed strictly. It is on this note that aviators of countries of the socialist community are successfully accomplishing present and future problems of the development of their states' civil aviation.

...Late in the evening an aircraft with foreign and Soviet guests sets a course for the capital. It is flown by V. M. Rzhevskiy, first deputy chief of the center. On the eve of Aeroflot's 60th anniversary he was given the honorary title "Honored Pilot of the USSR." The work of one of the mentors of aviators of fraternal countries was highly valued.

The lights of the runway taking students of the international "academy" into the high, peaceful sky remain beneath the wing...

Students from CEMA Nations

Moscow VOZDUSHNYY TRANSPORT in Russian 5 Feb 83 p 3

[Report by K. Yurin, staff member of the CEMA Center for GA [Civil Aviation]: "School of Internationalism"]

[Text] The first foreign students arrived in the CEMA center for GA (at that time the Advanced Flight Training School) almost a quarter-century ago. Aviation specialists from Czechoslovakia and the GDR mastered the Tu-104, an aircraft which made up an entire era in civil aviation, at the ShVLP [Advanced Flight Training School]. But a real "international boom" began with the appearance of the Il-18, the first Soviet aircraft which found a wide demand abroad.

This was the beginning, but now foreign aviation specialists are constantly undergoing training at Ulyanovsk. In just the last six years hundreds of crew members have undergone retraining in new types of airships at the Center for airlines of CEMA member nations.

A remarkable tradition exists at the Center that before beginning classes each newly arrived group of students visits Lenin's sacred places: the Lenin memorial complex and the home where the Ul'yanov family lived. Becoming familiar with the relics of our people and with the labor and revolutionary traditions of the Soviet people is a very important component of indoctrinational work at the Center. This work is broad and many-sided. An International Friendship Club functions at the Center and there are theme nights and gatherings at which foreign aviation specialists tell about progress in building socialism in their own countries and the impressions they received in the USSR.

The work with foreigners is specific. In addition to the language barrier (at times instructors have to learn flight terminology in almost ten languages), there are difficulties of a professional nature as well.

Several groups of foreign specialists now are undergoing training at the Center. While pilots from the GDR, Hungary and Bulgaria are taking a conventional course, those from Cuba essentially are mastering the air navigator trade anew.

We met with the Cuban friends after classes and asked them to tell how training was going. The first to speak in good Russian was Ubaldo Castillo:

"I am the only one of the group who was in the USSR before. In 1978 I completed the KII GA [Kiev Order of Labor Red Banner Institute of Civil Aviation Engineers] and received an engineer's diploma. Then I worked for several years at home, then came a new meeting with your country. I was astounded by the Center. I saw superbly equipped classrooms and new buildings... But of course the people are the most important. Superb, demanding instructors work with us: Gendelevich, Sadykov, Trakhov. . . . This list could be continued. We receive precise, specific knowledge, which is very important in aviation."

Enrico Bestard:

"When we traveled to Ulyanovsk, to Lenin's home, there was anxiety along with the happiness of seeing this sacred spot: Would we be able to justify the trust placed in us? I will not conceal that it was difficult at first, but now we have entered the rhythm and those outstanding grades which we are often given by demanding teachers probably speak for themselves."

The Cuban friends still had classes ahead of them in the training department, "flights" on a simulator and flying practice.

...But the pilots from the GDR already had begun practice flights. The sound of engines is heard day and night at the Center's airfield and aircraft taxi to the starting line again and again.

School's Facilities

Moscow VOZDUSHNYY TRANSPORT in Russian 5 Feb 83 p 3

[Article by P. Mushtatov, chief of CEMA Center for GA (Civil Aviation), Honored Pilot of the USSR: "From Here They Leave on an Important Flight"]

[Excerpts] During construction of Center facilities--the laboratory training and airfield complexes--our collective was given much help by the Ministry of Civil Aviation, union construction ministries, and party and soviet entities of the city of Ulyanovsk and the oblast, which constantly monitored this construction site. Despite the difficulties the planners--specialists of the Aeroproyekt and Gipropros institutes, RSFSR Gosstroy and builders of the Kuybyshevtransstroy and Ufimdorstroy trusts--coped with their tasks.

Socialist competition in honor of the USSR's 60th anniversary and the 60th anniversary of Soviet civil aviation played a major part in successful achievement of the goals set for the Center's collective.

The first section of the Center turned over for operation is represented by a laboratory training building, a comfortable 13-story hotel for 700, and a dining hall for 350. The laboratory training building which opened the doors of classrooms and training rooms to students in a hospitable manner is outfitted with the latest equipment and technical means for programmed training.

The airfield complex includes a runway with radiotechnical landing systems. It is possible to operate all types of modern airships of transport aviation on it. The Center's airfield in the future will permit training Aeroflot crews and crews of other airlines in category II of the landing minimum.

Runway renovation was accomplished simultaneously with the conduct of training and practice flights. This created additional difficulties, but the training of flight personnel did not let up in this period. Our collective fulfilled the task of providing Aeroflot and CEMA countries with qualified flight specialists.

The collective of the Center itself gave the builders considerable assistance. Dozens of workers of our services and subunits worked almost daily at the construction site. Student construction detachments of the sector's educational institutions and students took an active part in work on the underway projects.

It should be noted that in accordance with a general agreement necessary equipment came on a planned basis from fraternal countries for outfitting of the Center.

The Center continues to be built. In the future a control tower, simulator complex, medical unit and other facilities will be made operational. Outfitting with new aviation equipment will continue. For example, this year the Il-86 aircraft will be mastered.

6904
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AIR

RESULTS OF 24 FEBRUARY CIVIL AVIATION MINISTRY COLLEGIUM MEETING

Moscow VOZDUSHNYY TRANSPORT in Russian 26 Feb 83 p 2

[Text] A meeting of the collegium of the Ministry of Civil Aviation was held 24 February. Two matters were considered at it. The first one concerned the condition of flight operations in the Far East and East Siberian Administrations.

The second problem concerned implementation of measures to ensure fulfillment of the USSR Council of Ministers decree on questions connected with putting in order the work schedule of enterprises, organizations and institutions engaged in serving the public. The themes of the PRAVDA editorial "Passenger on a Trip" ran through all the speeches, primarily the following: "To increase to the maximum extent the exactingness of employees and supervisors of all levels and to persistently instill high standards [kul'tura] and efficiency in the administration of all links in the transportation system."

In our sector, it was noted at the collegium meeting, a great deal has been done in this direction.

However, the level of passenger service organization still does not meet the requirements being made.

The Ministry of Civil Aviation Collegium has decreed: take additional steps to improve passenger services, information and reference work, and flight regularity. Instructions are given to review the operating schedules of Aeroflot agencies and to provide for services to the public at the most convenient time, and to provide for the opening of new air ticket offices, primarily at large industrial enterprises, in organizations, public rest places, and in rural areas. It is necessary to improve ways and means of serving the public, to more widely incorporate the organization of centers for receiving advance air ticket orders by telephone and for their delivery to the public. To review at the councils of administrations the status of flight regularity, passenger services, and information and reference work, and to take effective measures to improve them.

Based on an analysis of the work of enterprises in the period of mass air travel in 1982, it is necessary to develop and coordinate with local organizations an overall plan of measures to improve the standards of passenger services in airports and at agencies. The collegium decreed that practical steps be taken to further improve work with the letters and complaints of the working people, to more fully make use of the suggestions and wishes of citizens for further improvement in the work of air transport. Instructions are given to review the procedure for providing passenger services at airports and agencies.

The personal responsibility of supervisors and each aviator for the condition and observance of discipline should be increased, and work to instill exactingness and a sense of professional pride and deep respect for passengers should be stimulated.

8936
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AEROFLOT'S KRASNOYARSK AVIATION TECHNICAL SCHOOL FACES PROBLEMS

Moscow VOZDUSHNYY TRANSPORT in Russian 13 Jan 83 p 3

[Interview with S. Krokhov, chief of Krasnoyarsk Aviation Technical School, by P. Sorokin, VOZDUSHNYY TRANSPORT correspondent, Krasnoyarsk: "Prepare a Worthy Replacement: New School's First Steps"]

> [Text] The doors of Aeroflot's new educational institution, the Krasnoyarsk Aviation-Technical School of Civil Aviation, opened wide on 1 September of last year. The training process is proceeding normally there, but for now it is more reasonable to speak not of the first successes, but of the serious problems facing the school. School chief S. Krokhov tells about this in a conversation with our correspondent.

Creation of the new school right in the center of Siberia was contingent on the rapid development of local civil aviation administrations, which have an acute need for highly qualified specialists. Consideration also was given to the fact that the school enrollment would come from local youth, who would remain to work in native areas on completion of training.

Despite the varied, persistent professional orientation work and agitation, the present acceptance by traveling commissions to schools located in the European part of the country took place in Krasnoyarsk almost without competition, even for the specialties most attractive to young people. The competition in our still largely unknown school consisted of three persons per place, and this after a preliminary strict selection and commission. It even was necessary to request the ministry to increase the previously planned number of places. This is for the present the only specialty in our school, and a very difficult one--technical operation of ground air navigation and landing radio equipment.

The school was created in very compressed time periods and naturally many difficulties fell to our lot.

Above all we have to note with gratitude the great assistance given us by the ministry, local party and soviet entities, and the Krasnoyarsk Civil Aviation Administration. The latter, by the way, became the school's sponsor and assigned a number of leading specialists for it from its collective. It documented a pledge to transfer to the school in phases a number of buildings and facilities of the Severnyy Airport, which gradually are being freed in connection with the shift of the aviation enterprise to a new base.

But any outside help produces results only when one is able to apply it with greatest benefit. After carefully weighing our capabilities we directed the most careful attention at resolving two primary problems of setting up a good instructor collective and outfitting the training facility with the latest, most up-to-date and promising equipment.

From the first day we were guided by the principle of not starting up anything in the new school that was temporary, obsolete or random, no matter how compressed the time period or how great the difficulties along the path of its development! We are strictly adhering to this uncompromising course although this is not always simple to do.

For example, we placed high demands on instructor candidates both in professional level and moral make-up. At the same time we were forced to take account of the candidate's possession of an apartment, because in the near future we were not able to give housing to our workers.

We created a laboratory training facility, engaged in the technical outfitting of the training process and now are outfitting a radio training range by that very same principle--only everything foremost and up to date!

All this required enormous energy of the specialists, but on the other hand it assured normal training of cadets.

The MGA [Ministry of Civil Aviation] commission which visited us in August took note of many more positive points in the school's preparation for the beginning of classes and gave valuable recommendations which we are taking as guidance both in current work and in resolving the main problems.

As in any other great undertaking, we still have a large number of problems. I will mention only two of them which, by the way, are impossible to be accomplished without the help of appropriate ministry administrations and the Krasnoyarsk Civil Aviation Administration which is sponsoring us.

The first of these problems is a delay in creating a complex of training and residential buildings and certain other facilities. The fact is that the concrete plan for the school's development for the period up to the first graduation (1985) is now just being developed. This in itself somewhat delays the process of the educational institution's further development. The approved plan for transfer of buildings and other facilities to the school by the Krasnoyarsk Administration is not being adhered to by time periods and sequence. The administration is transferring to us initially, naturally, those buildings which it can free faster and not those which the school needs first of all for organizing a normal training process. For this reason there is for now nowhere to set up the equipment allocated to us by the ministry and a portion of the valuable equipment obtained independently for laboratories and training classrooms.

By the way, it is also difficult to keep silent about the fact that repair of the facilities being transferred is being conducted very slowly and often with poor quality by Civil Aviation Construction-Installation Administration No 10.

Elaboration of the general plan for the school's development for the period up to 1995 was completed at the end of last year, but the first practical results from its implementation can be obtained no earlier than 1985-1986. Even now the school needs its own production shops, and a fully outfitted radio training range is needed no later than the next training year.

The situation is aggravated even more by the fact that all capital investments of MGA for the 11th Five-Year Plan of course already have been distributed, and tasks also have been given to all contracting organizations which could fill our orders. As we see, however, we cannot count on them.

A real solution to the situation at hand would be the creation of the school's own construction section. Then we would be able to perform the repair, reconstruction and outfitting of buildings with our own resources and not fall behind the plan for further development of our educational institution, the youngest in the sector.

The second very acute problem for us is that of housing. As I already said, for now we manned the school basically with specialists who have apartments in Krasnoyarsk, but this will become impossible in the very next training year, let alone after that. Additional funds are needed for proportionate participation in construction and in obtaining housing from the gorispolkom. More precisely, those 200,000 rubles which the ministry allocated the school for available housing clearly are not enough. It would be well if this sum were to be at least doubled.

...Those are our first modest successes. Those are the main problems which hold back the development of successes and of course which have to be eliminated as rapidly as possible.

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EDITORIAL STRESSES NEED FOR FUEL ECONOMY

Moscow VOZDUSHNYY TRANSPORT in Russian 25 Jan 83 p 1

[Editorial: "The Plan and Efficient Fuel Consumption Are Inseparable Concepts"]

[Text] Work to fulfill state targets, socialist pledges and counterplans has been taken under special control in our sector's aviation enterprises since the first days of the year. In transporting passengers and priority cargo, in contributing to the successful activity of the different sectors of the national economy, every aviator should be continuously guided by the regulations set forth at the November (1982) Plenum of the CPSU Central Committee. One of them requires: "...stepped-up targets must be fulfilled with relatively less increase in physical input and manpower resources."

As is well known, fuels and lubricants are the most important item of expenditure in civil aviation. And for this reason, one of the most critical problems in our sector's production activity is performing the maximum volume of operations with minimum consumption of aviation fuel.

A discussion on this was held at a conference of command and supervisory personnel and leading production workers of the sector. Let us again recall one of the points of the socialist pledges for 1983 accepted by its participants: "...to reduce the relative expenditure of aviation kerosene by 1.7 percent compared with 1982, including by 0.2 percent as against the plan..."

In realizing this initiative advanced by all the sector's aviators, all services and subunits must actively participate. A great deal can be done especially by employees of air maintenance bases [aviatsionno-tekhnicheskiye bazy] to ensure that fuel consumption is reduced by careful engine adjustment, cleanliness of aircraft surfaces, and many other things.

The role of crews and air traffic controllers is indisputable. The economists and employees of shipping organization services must give their opinion. None other than they determine the best routing [struktura trass], ensure the maximum commercial load, and monitor the efficiency with which flights are carried out.

But we must frankly state about this that there are still many reserves here. Thus, last year--and this was mentioned at the conference of command and supervisory personnel and leading production workers--the Moscow Transport, East Siberian, North Caucasus and Krasnoyarsk Administrations succeeded in fulfilling the plan by excessive flying time [perenalet chasov].

So not everyone has realized yet the necessity of making use of intensive factors in the development of production. So this problem is not always in the field of vision of headquarters, party, trade union and Komsomol organizations. So the work style of certain enterprises still does not correspond to the requirements of our sector's headquarters--the Ministry of Civil Aviation.

Let us take the same problem of the utilization of fuels and lubricants. The MGA [Ministry of Civil Aviation] has been devoting and is devoting the greatest attention to their even more efficient and rational use.

Thus, for example, beginning this year the indicator "relative fuel consumption per unit of transport work" has been included in the number of basic ones, which unquestionably will contribute to more drastic savings [uzhestocheniye ekonomii].

Determining the maximum consumption of aviation fuel, taking into account the transportation work being performed by crews, for example, when leaving for alternate airfields, contributes to the same objective. In other words, they will more carefully analyze weather conditions and raise their professional level to ensure that every gram of fuel is used efficiently.

To increase the economic incentive of cockpit personnel to economize aviation fuel, appropriate changes have been introduced in the regulations on payment of bonuses. In conformity with them, crew members receive bonuses for reducing the relative fuel consumption with respect to established standards.

Experience once again attests: the best results in the efficient and rational use of fuel and power resources are achieved where economic managers and public organizations conduct this work systematically and purposefully, with the broad participation of all collective members without exception. Precisely because of this, for example, reduction of the relative fuel consumption for transport work in 1981 amounted to about 2.5 percent, and from 2.6 to 6 percent for Tu-154, Il-62 and Tu-134 aircraft. Definite progress in this direction also was achieved in 1982.

In analyzing the sources of these indicators, we do not have the right not to note the socialist competition based on personal accounts of efficiency and savings. As is well known, this initiative came into being in the Domodedovo Production Association and was further developed in the Leningrad Aviation Enterprise. It has now received wide support in the Moscow Air Transport Hub [aerouzel], and in the Sverdlovsk, Vilnius, and a number of other enterprises.

However, one cannot help but note that the "green light" still has not been given everywhere for personal accounts of savings. Such work is being carried out especially poorly in aviation enterprises of the Magadan, Yakutsk and Far East Administrations. Apparently the force of inertia, the habit of working by old methods, is still strong here. It is worth stating that such a style is intolerable in our time, when the party is calling upon us to accelerate improvement in every sphere of managing the economy and to establish conditions which contribute to the development of initiative and enterprise.

Old methods are especially intolerable when advanced experience is available. Let us take, for example, the collectives of the Vilnius and Rostov Aviation Enterprises, where the results of socialist competition in accordance with personal accounts are summed up with the aid of electronic computers.

The system of organizing work to economize GSM [fuels and lubricants] and for the efficient use of electric power and fuel in the Uzbek Administration is worthy of attention. Why isn't this experience studied and adopted where it is needed?

An important role in the efficient and rational use of fuel and power resources belongs to our scientists. There is no denying that they are doing a great deal to ensure that fuel is consumed with maximum efficiency. For example, the collective of the GosNII GA [State Scientific Research Institute of Civil Aviation] has been entrusted with the task of establishing a unified sectorial system of collecting and analyzing data on fuel expenditure in flights.

In order to successfully resolve this task, the participation of aviation enterprises which ensure the receipt and regular updating of statistical data was required. The air maintenance bases of the Tashkent, Leningrad, Frunze, and certain other aviation enterprises have participated well in this work. But others have displayed coolness toward this matter. Such facts cannot be tolerated, for this impedes the development of trip standards for aviation fuel consumption for flights under the central air traffic schedule.

As it was stated at the conference of command and supervisory personnel and leading workers of our sector, fulfillment of state targets now depends on increasing efficiency in the use of aviation fuel. There are no trifling details in this matter. And consequently, everything incumbent upon us must be done to ensure that these so-called trifling details do not impede movement ahead.

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AIR

FLIGHTS FACE REFUELING DELAYS DUE TO FUEL HOARDING

Moscow VOZDUSHNYY TRANSPORT in Russian 8 Jan 83 p 2

[Article by Yu. Gerasimov, first deputy chief of the Tajik Administration of Civil Aviation: "When the 'Pocket' Obstructs [zastit] the Eyes: The Price of Irresponsibility"]

[Text] The Tu-154's 164 passengers were flying on the Leningrad-Kazan'-Leninabad-Dushanbe route. In the liner's cabins, as expected, there was silence, and the flight was proceeding normally, but aircraft commander A. Koloskov started to show concern as he drew nearer to Kazan'. Nearly every time he had encountered an almost unexplainable unpleasant attitude toward so-called "strange" aircraft at this airport.

They landed. One, two, three hours passed. They were not refueling the aircraft. Perhaps there is no fuel? According to the log "Departure decisions made," Koloskov was convinced that this was not the case. On this day, the refueling of many aircraft based in Kazan' had been documented, and at the same time six of them had been refueled even after the landing of an aircraft bound for Dushanbe from Leningrad.

...Six hours went by. The passengers were nervous.

The Tu-154 commander, A. Koloskov, already completely exhausted, appealed to airport shift chief Z. Khaziyev and received the blunt answer in the spirit that nothing is gained by refueling you, and it is better, they say, to make several additional flights with our own fleet of aircraft on your fuel...

Just what is the "gain" that the managers of the Kazan' enterprise are looking after in this case? Khaziyev's confidences were reminiscent of the old Volga merchants, calculating each step only from the viewpoint of their own pocket.

When the eighth hour after landing came and they had not given Koloskov fuel (although fuel trucks full of fuel were standing at the airport waiting for "their own" aircraft), he made the decision (there was enough kerosene) to fly to Ufa. The managers of the Kazan' enterprise, very likely, were satisfied: savings were on hand.

...Meanwhile, simple calculations demonstrate what this "economy" cost the state: instead of flying south, the aircraft heads east, and an hour of unproductive flight costs the state 2,000 rubles. Practically for no purpose, 6.5 tons of fuel were consumed. Plus the service life of the aircraft, the crew's work time, reduction in productivity, the flight's delay for 8 hours...

...Say what you like, the incident we learned about from the report of the aircraft commander, Koloskov, is shocking, but what is most unfortunate is that it is far from isolated. This has become a system at the Kazan' airport. In August alone, five aircraft making flights in the same direction as Koloskov's crew had to head from here for Ufa and Gor'kiy for refueling. As a result, fuel consumption exceeded the norm by 23 tons, about 4 hours of unproductive flying time were permitted, not counting the reduction of other economic and financial indicators. Having made savings for itself, the Kazan' enterprise caused irretrievable damage to the state.

I wanted to conclude with this bitter reproach. But from Dushanbe came a scheduled report which states that the headquarters of the aviation enterprise is asking that steps be taken to suppress the Kazan' airport's practice of sending flights via Dushanbe-Leninabad-Kazan'-Leningrad (and back) for refueling in Gor'kiy, Ufa, Orenburg, and Kuybyshev. From the final days of August to the end of September, 28 flights were sent from Kazan' for refueling, which resulted in 14 hours of excess flying time, the overconsumption of 112 tons of aviation kerosene, and the reduction of productivity on this route by more than 500 ton-kilometers.

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PILOT OFFERS SUGGESTIONS FOR FUEL ECONOMY

Moscow VOZDUSHNYY TRANSPORT in Russian 25 Jan 83 p 1

[Article by V. Chernov, aircraft commander of the Borispol' Aviation Enterprise: "Look for and Make Use of Reserves"]

[Text] All specialists in civil aviation who are connected to one degree or another with the operation of aircraft have an influence on the direct or relative consumption of aviation fuel. However, organizational measures should be considered the main thing. Work is being carried out in this direction, and its results are tangible, especially in the case of large-scale actions [krupnomasshtabnyye aktsii]. "Minor details" against this background are not always noticeable. But I would say that they are wasteful.

Let us look closely at some of them.

Before takeoff, warmup of the engines on a Tu-134 aircraft for a minute, even for 2 to 3 minutes in low temperatures, is compulsory. So is it necessary?

There was an article in VOZDUSHNYY TRANSPORT concerning abolition of a similar warmup on the Tu-154 and Il-62 aircraft. Such an innovation saves the state aviation fuel and engine capacity. But, permit me to ask, why hasn't this technological innovation applied to the Tu-134?

We consume 60 to 65 kilograms of aviation fuel in 1 minute of warmup. Consequently, in a month just our aviation enterprise, which makes from 1,500 to 2,000 flights in this period, consumes over 120 tons in warmups. With such fuel, 14 two-aircraft flights [parnyye reysy] can be made from Kiev to Moscow to Kiev, and 2,128 passengers, not counting freight and mail, can be transported. The "minor details," as we see, are very substantial.

I propose the following alternative: in the runup area [na ispolnitel'nom starte] before establishing the takeoff regime, have an intermediate (83-85 percent) one for 20-30 seconds--this also corresponds to the time for performing operations in the runup area. Even such a "compromise" solution would save more than 70 tons of aviation fuel per month in our aviation enterprise alone.

Appropriate landing patterns have been determined for each airfield. The flight altitude of the so-called circuit is determined basically by the obstructions in the vicinity of the airfield. In the majority of cases, the altitude mentioned is maintained up to the beginning of the glidepath. From this it is not difficult to visualize that the higher the altitude in the pattern, the farther from the runway we have to "enter the glidepath," and consequently, the more fuel is consumed. It looks like this for the Tu-134 aircraft: increasing the altitude for entering the glidepath by 100 meters increases flight time by 50 seconds, which requires consumption of an additional 40-45 kilograms of aviation fuel. The best altitude for entering the glidepath is approximately 400 meters.

For this reason, there is a need to revise existing approach patterns and bring them closer to the best alternative. For example, reducing the altitude for entering the glidepath for the Simferopol' airport by 300 meters will yield a reduction in fuel consumption for one flight of a Tu-134 of more than 100 kilograms, amounting to dozens of tons per day. Unfortunately we have many airfields where the altitude for entering the glidepath has been overestimated without sufficient need.

At large airports with heavy traffic, where accumulations of aircraft "holding" in the pretakeoff position are not uncommon, two directions need to be worked out, in my view. Firstly, the ground controller, who knows the approximate taxiing time, should assign an expeditious time (without involving the scheduling) when engine startup is authorized for beginning to taxi, and inform the crew of this. He thereby establishes appropriate intervals between aircraft approaching the runup area (within a minute). The crew, knowing the time for startup and performing the necessary operations, determines the beginning of the startup.

Secondly, there are obviously some best intervals between aircraft taking off and landing which ensure maximum use of the runway. An aircraft taking off uses the runway for 1.5 minutes: that is 30 seconds of taxiing plus 30 seconds to perform the checks (including the warmup suggested previously), plus 30 seconds for the takeoff roll. An aircraft approaching for a landing, at the moment that an aircraft taking off becomes airborne, should be no farther than 1,000 meters from the runway, and for 1.5 minutes prior to this at a distance of 7,800 meters. From this moment, the landing controller "occupies" the runway, but up to that time it is at the disposal of the takeoff controller.

The limitation cited has been established for landing aircraft of the Tu-154 and Tu-134 types. If Yak-40 or An-24 aircraft are landing, the distance from the runway extends for 7 kilometers. Under unfavorable weather conditions, of course, the limits proposed should be moved back up to 10 and 8.5 kilometers, respectively.

Limits of vertical and forward flying speeds have been put into effect for all aircraft in airport traffic areas. This is a positive step, especially for large airports with heavy traffic. But shortcomings have not been eliminated, either: first of all, flying time and fuel consumption are increased, and secondly, it does not permit the controller and the crew to modify the circumstances (to establish intervals). In my view, restriction of vertical and forward speeds should be implemented only at the instruction of the UVD [air traffic] controller, that is, when necessary.

Extensive changes for implementing "economical" intervals will not be required in existing documentation. Just a small note: "Restriction of speeds from an altitude of 3,000 meters to the transition flight level [eshelon perekhoda] are implemented only at the instructions of air traffic control"; the appropriate changes also should be introduced in the approach controller's work procedure.

Thus, let us sum up the results: 30 kilograms for the warmup, 15 for the takeoff, plus 15 kilograms for the descent, plus 40 for the approach provide a savings amounting to 100 kilograms for one flight. The monthly savings for just our enterprise for Tu-134 aircraft will amount to about 200 tons, and the annual savings will amount to 2,400 tons--an entire train of 40 tank cars.

In fact, the steps proposed are just half-measures, for the main thing is the efficient use of aircraft, the use of airplanes on routes of the best length. For the Tu-134, it is equivalent to 1,200-1,400 kilometers, and acceptable from 700 to 1,800 kilometers. Exceeding the limits cited sharply increases the relative consumption of fuel. For example, in a flight over a route 500 kilometers long the relative consumption per unit of work performed is 25-30 percent higher. For the An-24 aircraft, which I flew previously, the best range is about 650 kilometers and the acceptable range is 400 to 800 kilometers.

Thus there are reserves for savings of aviation fuel. But they must be looked for and utilized without delay.

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ROUNDTABLE ON FUEL ECONOMIZATION

Moscow VOZDUSHNYY TRANSPORT in Russian 3 Mar 83 pp 2-3

[Roundtable discussion led by S. Omel'chenko and V. Torishniy: "The Reality of Relative Economy"; questions and statements by "VT" printed in boldface]

> [Text] Economy, a zealous attitude toward public property--this is a question of the reality of our plans; such an idea was expressed at the November (1982) Plenum of the CPSU Central Committee. Yu. V. Andropov, general secretary of the CPSU Central Committee, urged that the struggle be conducted more decisively against mismanagement and wastefulness, and that the experience of creative work and a really thrifty attitude toward all the resources at our disposal be more widely disseminated.
>
> Supervisors and specialists of the UVD [Air Traffic Control] service have assembled at our "roundtable" to discuss their capabilities of saving fuel and other resources, and to share their experiences in the search for reserves and more efficient ways of making use of them.

"VT": It is well known that civil aviation is the largest consumer of liquid fuel, and more than a third of the cost of shipments falls to the share of GSM [fuels and lubricants]. Naturally, the limits and the sectors being allocated are rather rigid. Nevertheless, the experience of leading collectives convinces us that opportunities for saving fuel have been far from exhausted. But what is the air traffic control service's participation in this work?

A. Kolesnikov, chief of the TsUVD [Air Traffic Control--ATC--Center]: In our view, ATC specialists, like no others, have the most abundant reserves available. They can be found in the organization, planning and safeguarding of flights and directly by air traffic control.

I want to remind you of the basic requirement which economy dictates to us: do more with less expenditures. To a definite extent we are succeeding in this. Note how the basic indicators of civil aviation work have increased in recent years. And after all, limits on fuel continue to be strict.

Last year, owing to the efforts of various specialists, the sector as a whole was successful in conserving tens of thousands of tons of aviation fuel. Figuratively speaking, every 70th ton was conserved under air traffic control.

By providing for flights by aircraft at economically advantageous flight levels, by directing them on the shortest airway sectors, and when possible, via the straightened [spryamlennyye] routes, by shortening the time to remain in the airport traffic zone and on the approaches to it, and the holding time in the preliminary runup area [predvaritel'nyy start], air traffic controllers are helping the crews to make economical use of flying time, aircraft resources, and finally, fuel.

Today we can talk not only about fuel. Our service has at its disposal the most powerful lighting, radar and radio navigation facilities. Competent specialists, like zealous proprietors, by using them wisely, will find the opportunity to conserve a considerable amount of electric power.

Every employee of the service, particularly in his work place, must find and make use of all available reserves for economy at his disposal.

Today we can confidently speak of the real possibility of doubling the quantity of fuel saved. Success in the effort depends entirely on each one of us.

"VT": Must, should--that is understood. It is also clear that by careful use of all the ways of saving enumerated, the ATC service can become the richest source of fuel conserved, a repository of energy resources. However, are the ATC subunits always competently making use of these ways? It is obvious that this depends to a considerable degree not only on the desire, but on the level of specialists' professional training, their capability of expeditiously making a competent decision which will yield dozens of kilograms of fuel saved in one case, and perhaps hundreds of kilograms in another case, without hampering flight safety, of course.

A. Tuturov, deputy chief of the TsUVD: Duty, responsibility, awareness, as well as high professionalism, unquestionably play an important role. Training our specialists to have these qualities is one of the ways of resolving the problem.

The immense role played by socialist competition in training is well known. In summing up its results in subunits, savings in fuel and flying time is considered one of the basic indicators in the work of a collective, of each employee. The ATC services compete among themselves for the title of model service. And, of course, the point of a thrifty attitude toward resources is included in the regulation on the awarding of an honorary title.

Every controller knows well the effect of an aircraft holding for an extra minute in the air, as well as on the ground with its engines in operation, what savings are achieved by each type of aircraft when taxi routes are shortened, and how much it costs to carry an extra ton of fuel...These data are in the instructions for controller and flight personnel, worked out by staff members of the TsUVD and the ULS [Administration of Flight Personnel], jointly with the GosNII GA [State Scientific Research Institute of Civil Aviation] and the GlavNTU [Main Scientific and Technical Administration].

Fuel savings also are incorporated in the efficient organization of airspace as a whole, ensuring the best possible flight regime by flight levels and area navigation, and in reduction of the number of departure delays. Much depends on the climb and descent regime, on the quality of weather forecasting for the flight route, and especially for landing airfields. An important place belongs to efficient planning and regulation of air traffic flows.

These and other problems of the efficient and economical use of resources have been reflected in the overall plan of administration which has been supplemented in enterprises, taking local features into account.

N. Belyayev, chief of a TsUVD department: Particular attention also should be devoted to the professional training of specialists. Only a highly skilled employee can competently make use of all opportunities. This year the first ATC service specialists trained in accordance with new programs which provide for a broad economic education will be graduated. But this is scarcely sufficient. Work to improve the level of professional training and the educational level [klassnost'] of controller personnel should continue as previously to be supervisors' center of attention.

A. Shostak, controller-instructor of the Minsk RTs [Regional Center]: Unfortunately, a number of problems related to staffing and improving working and living conditions continue to be unresolved. Our service lacks many skilled and able employees every year for this reason. The opportunity to make the transition to five-shift operation and to provide two controllers for the routes with the heaviest traffic still does not exist everywhere.

Ye. Korolev, deputy chief of the TsUVD: Only a competent, well-trained specialist is really capable of coping with all the increasing requirements. Especially in working with new radio facilities and automated systems. The future is with them. It is important to know and skillfully make use of all their capabilities. They are making it possible to increase the airspace capacity of zones and regions, to improve flight economy and reliability, and to reduce the holding time of aircraft in the airport traffic area, and all this yields tangible fuel savings.

The Leningrad controllers [dvizhentsy], who were the first to adopt the airport AS UVD [automated air traffic control system], were the first in the sector to develop and propose the method of continuous [besstupenchatyy] climb and descent from a flight level, which has received wide dissemination and the deep gratitude of flight specialists, particularly the crews of Tu-154 and Il-62 aircraft.

Specialists at the Kiev airport, who have reduced to a minimum the time that aircraft spend holding in the preliminary runup area before takeoff, are deriving much economic benefit from using the AS UVD. Owing to the introduction of automated facilities in the Moscow Zone and their competent application, a landing approach is performed, as a rule, via the shortest route.

The new technology also requires a great deal of qualitatively new knowledge. It is already impossible to operate in the old way. Otherwise, the most modern technology will not produce the effect anticipated. This is why it is important when the AS UVD is put in use to develop new nonconflicting traffic patterns and new airspace allocation which provide the maximum gain.

"VT": The allocation of airspace and its improvement is one of the basic conditions for increasing flight economy in general, and air traffic safety. What work is being done in this direction?

L. Bukreyev, chief of a TsUVD department: Over the past 10-year period the length of the airway network has been increased by one-third, the number of sections of domestic airways with flight levels up to 12,000 meters inclusive, the most favorable for aircraft with gas turbine engines, has more than doubled and the number of straightened routes has increased by 2.3 times as many. Work to improve maneuvering patterns for aircraft in airport areas and on approaches to them is being continued. They must be nonconflicting and economical, and approach and departure corridors should ensure a steady, continuous descent or climb. The most economical patterns have been put into use in Simferopol', Kuybyshev and Borispol'.

The one-time use of all straightened routes available today provides about 175,000 kilometers of route economy. I remind you that the shortening of a route by 50 kilometers for an Il-62 aircraft saves about 600 kilograms of fuel, and the change of one flight level for a more advantageous one yields up to 1 ton.

"VT": And how are these advantages used to advantage in practice?

A. Shostak: At the Minsk Regional Center we manage to straighten out six sections of airways by an average 30-40 kilometers at definite hours and even days of the week. Before taking over a shift, each supervisor finds out if there is an opportunity during his watch to authorize aircraft to take the shortest routes and he informs the controller of this in the briefing.

Last year we cleared 44,000 aircraft to take straightened routes; 4,923 tons of fuel were conserved. We are now looking for an opportunity to shorten one more airway section by 103 kilometers.

But there also are costs associated with planning, primarily with poorly conceived scheduling. The unevenness in the distribution of the air traffic flow at times does not make it possible for the controller to utilize more economical altitudes. And a considerable reserve of savings is concealed here.

V. Samokhvalov, chief of the main center of the YeS UVD [Unified Air Traffic Control System]: I agree. Traffic density should not exceed the established hourly norm, otherwise aircraft will be forced to proceed on so-called nonstandard routes and at economically disadvantageous flight levels.

We have estimated that if unevenness in scheduling is smoothed out, fuel savings will amount to about 14,000 tons per year. In the Moscow Air Traffic Zone such work has been carried out. Some of the flights have been transferred from Vnukovo to Domodedovo, which has made it possible to shorten flight time. Fuel consumption also has been reduced accordingly. The work by specialists in the Kuybyshev zone is another example of the successful planning of air traffic flows. At one of the heaviest points near Penza, eight airway sections converge from 13 directions. Because of the unfortunate scheduling, the controllers' workload at certain hours has been significantly greater than what is permissible. As a result, there are delays on the ground and unproductive use of resources. In just 2 summer months we managed to replan 230 aircraft departures. The economic gain amounted to about 152,000 rubles.

Yu. Khomutov, chief of the Kiev Zonal Center of the YeS UVD: We are being helped a great deal by the daily planning of flights and the automated system of planning being adopted with the aid of the interconnected [kustovoy] computer data center. Data on flights being planned on straightened routes make it possible for the controller to make the best decisions.

"VT": Links in the chain: traffic density or open space in the sky and excessive consumption or economy of fuel are apparent. The relationship between fuel conservation and the straightening of routes, as well as the best scheduling alternative, is traced no less clearly. But there are most likely other ways of economical air traffic control, too, which are not as obvious?

N. Lebedev, senior navigator of the Main Center: In some regions they have been able to obtain one or two continuously functioning flight levels that are the most favorable on interzonal routes. Much work has been done for this and the advantages promise to become apparent, but instead of obtaining them, they reconcile themselves locally to using both the straightened routes and the most favorable flight levels when there is not a full workload. What is to blame for this? Services in the sector are inadequately coordinating their actions. I am inclined to think that it is precisely that. Here are examples which are lying on the surface, so to speak: over a 24-hour period only two aircraft used one of the straightened routes instead of the 12 aircraft planned. In a number of cases, crews refuse to fly over a straightened route.

Yu. Khomutov: I have a suggestion. Perhaps it is worth having aircraft crews, when they are preparing for a flight, plan the flight on two airways, a basic one and an alternate, taking into account the possible use of straightened sections. At the same time, to estimate the fuel supply according to the basic route. It appears that this would increase work efficiency, improve interaction between flight and controller services, and that opportunities to straighten routes would be more effectively utilized. The volume of telegraphed data would be reduced, which also is of no small importance.

"VT": So the complexity implies, first of all, mutually advantageous interaction. But thus far we have been discussing economy in the air. But after all, there are many reserves on the ground, too...

S. Laburdov, supervisor of the Moscow Center AS UVD: Up to now much fuel has been consumed on the ground without justification. The situation is widespread in large air traffic hubs : 10 aircraft are due to land soon--they are already in the approach zone--and no less than five, let us say, are ready for takeoff. At times they are cleared to start an engine without taking into consideration the situation in the air. But this is mainly done to adhere to the Scheduling Instructions, for otherwise the departure delay will be recorded for the controller. So much jet fuel is consumed for no purpose! Much, of course, depends on the controller's skill, the extent of his training, his ability to efficiently interact with nearby points, and with other services, particularly with the PDSP [expansion unknown].

V. Gleyberg, deputy chief of the traffic service of the TsUMVS [expansion unknown]: In our work we take into consideration many factors which directly or indirectly affect fuel consumption--selection of the best runway, the navigation evaluation, the approach pattern. We do not disregard minor details, either. Taxi routes are regulated with a stopwatch. The arrangement of parking areas and selection of their placement have been carefully thought out.

V. Rusol, senior navigator of Sheremet'yevo Airport: Significant savings in aviation fuel may be obtained by efficiently carrying out the "Method for the best selection of operations for the runway." At Sheremet'yevo Airport, the best runway selection, taking into account the air traffic flows, has been in use for several years now and yields a substantial economic gain. It is gratifying to note that this method is beginning to be put into effect at other airports in the country.

V. Kanishchev, flight supervisor of Domodedovo Airport: Our opportunities probably will appear insignificant to you. With the introduction of the MTs AS UVD [Moscow Center Automated Air Traffic Control System], the approach zone is no more. We economize on the ground exclusively. This year we made the pledge to conserve not less than 850 tons of aviation fuel.

The time from the beginning of taxiing to takeoff has been shortened up to 10 minutes. We have been making economies since 1975. Significant experience already has been accumulated. We award first place in socialist competition only to the shift in which everything goes well with an efficient approach to fuel consumption.

"VT": Letters to the editorial staff from controller readers confirm that socialist competition for conservation in the ATC services is being more and more widely put into practice. But there are other reports. The most acceptable methods of providing incentive to ATC specialists who are actively participating in the economizers' campaign have not been found everywhere yet, unfortunately. More substantial reinforcement of moral incentives by material inentives is necessary.

S. Shanayev, chief of the Chita Zonal Center: The search for new reserves and ways of more economical operation entails many complications and much labor input. Economic incentive would be a good stimulus.

V. Kanishchev: The economic gain from the operation of just our collective, far from the largest, with really quite limited opportunities, has amounted to 63,000 rubles of fuel economy. Certainly funds can be allocated from this sum for incentive to those who have distinguished themselves the most.

"VT": It is an old truth: the calculation that the mind will find one more confirmation and a very important one for everything. Isn't it so?

A. Kolesnikov: Under the current conditions of strict limits on aviation fuel, flight personnel are exerting considerable effort for this economy. Crews have their own methods, their own calculations for this. But here is the problem: would pilots be able to register to their balance the tons conserved in the amounts they manage to save with the help of the traffic controllers if they relied and counted upon just themselves in their own efforts? The answer is the same--no! And here we come to the main point. The traffic control service conducts its own calculation! The kerosene saved, which in the first case may be touched, so to speak, is considered real, but in the other case is counted as relative... An obvious discrepancy. On the one hand, no one doubts the real participation of controllers in saving fuel, and on the other, no one can say he has seen this same savings in the tanks and at the GSM depots. For the most part, the flight personnel who flew over the straightened route of a "strange" [chuzhaya] zone, made a straight-in approach to a "strange" airport, and did not hold in the runup area which the "strange" controller was worried about sense the reality of it.

But we do not have "ours" and "theirs." Aeroflot is a unified transport system and breaking apart its links means disrupting its normal operation.

Since ancient times there have been many calculation methods. The most acceptable has prevailed up to our day. It follows that the problem concerns the progressiveness and convenience of the method. The current procedure of calculating fuel economy does not correspond to today's requirements. Each service--flight, traffic control, and ground--has its own estimation system. We need a procedure of accounting which will exclude a different calculation of the same kerosene and provide the opportunity to represent the fuel that has been conserved by controllers in real physical terms ; that is, the procedure should be unified for all services, so that in each ton of fuel conserved the proportion of participation by all specialists--pilots, controllers, engineers and technicians--is evident. And then the final word rests here with the scientific organizations. Then the opportunity will appear for economic incentive to the specialists of all services in the common struggle for efficient use of resources.

"VT": Considering the importance of savings in fuel and power resources, evidently the time has come to raise this matter to the level of official duties. But the problem will not be solved by instructions alone. At the November

(1982) Plenum of the CPSU Central Committee, the necessity of increasing the activity [aktivnost'] of the working people was pointed out. A great deal depends on initiative, responsibility and a creative attitude toward the work of each specialist in civil aviation. It is important that everyone has a sense of participation in the common effort--conserving aviation fuel.

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AEROFLOT BEGINS IL-86 SERVICE BETWEEN MOSCOW, HANOI

Moscow VOZDUSHNYY TRANSPORT in Russian 5 Mar 83 p 3

[Article by V. Degtev, deputy chief of OPVR TsUMVS (Political Indoctrination Work Department of Central Administration of International Air Services), Sheremet'yevo: "At the Aeroflot Map: The Il-86 on the Moscow-Hanoi Route"]

[Text] The first Soviet Il-86 widebody aircraft went out on the Moscow-Hanoi-Moscow route. This trip marked the beginning of its regular flights between the capitals of two fraternal countries, the Soviet Union and the Socialist Republic of Vietnam.

Regular direct air service between the USSR and the SRV over the Moscow-Hanoi route was begun on 16 October 1970 aboard the Il-18 aircraft on the basis of a Soviet-Vietnamese intergovernmental agreement concluded on 20 June 1969. This event was preceded by extensive work by the fraternal Vietnamese people to set up their own national civil aviation. In overcoming the difficulties of prolonged colonial domination, the people of Vietnam with the help of socialist countries, and the Soviet Union above all, began restoring the wartorn airfields and airfield equipment in the mid-1950's. National pilot and engineer cadres for civil aviation of the Socialist Republic of Vietnam were trained in educational institutions of the USSR and other socialist countries.

Deliveries of Soviet aviation equipment--the Li-2 and Il-14 aircraft--allowed Vietnam's aviators to begin flights in a comparatively brief period over internal routes and place the new form of transportation at the people's service.

Subsequently, as the airfield network was readied, modern An-24, Yak-40 and Tu-134 aircraft began to operate on Vietnam's air routes. The An-2 aircraft found extensive application in aerial spraying operations in agriculture and forestry.

Constant scientific-technical progress is a typical feature of Soviet-Vietnamese aviation cooperation. In 1970 the Moscow-Hanoi air route was served by the Il-18 turboprop aircraft. Soon modern Tu-154 and Il-62 jets replaced them and now the Aeroflot flagship, the Il-86, has gone on the route.

The Socialist Republic of Vietnam's entry into CEMA membership reinforced even more the fraternal people's ties with countries of the socialist community, including in the civil aviation field.

The constantly strengthening ties between the USSR and SRV in the area of economics, science and culture are reflected in the increase in volumes of movements and in the frequency of flights.

"In 1979 our Il-62 crew," recalls Honored Pilot of the USSR S. Kechayev, "was assigned to open a new route in Vietnam via Khabarovsk and extending over international waters. The route lay through regions with difficult weather conditions and poor navigational support, but this was no hindrance for flights by Aeroflot aircraft, just as the various provocative attempts to create all possible difficulties and hindrances in the approach to Vietnam did not interfere with us. Our crews successfully accomplished every trip, knowing that the arrival of an aircraft in Hanoi meant effective assistance to the fraternal people of Vietnam in fulfilling plans for creation."

...The arrival of the Il-86 and its crew at the Noi Bai airport was greeted festively, with flowers and cordiality. This event was noted widely by the press and other mass media.

"In Hanoi's capital airport," says subunit commander Pilot 1st Class V. Parshin, "we were greeted in a brotherly manner. Everything indicated that we were on a holiday, the guests of friends."

On the return trip the Il-86 aircraft under control of airship commander N. Samsonov returned from Hanoi to Moscow, covering a distance in both directions of some 20,000 km.

Here is how the passengers evaluated this trip.

"A group of Vietnamese students numbering 120 persons," says Pham Viet Viung, a graduate student of the Moscow State Pedagogic Institute imeni V. I. Lenin, "was returning to Moscow to continue studies. And of course the flight aboard the Il-86 gave great joy to all of us. I will not hide the fact that we liked not just the superb aircraft, but also the service aboard. During the entire flight we experienced constant cordiality on the part of the team of flight attendants headed by G. Flyugerova and L. Sorokina. Many thanks to them for this!"

V. Fomin, the head of a group of Soviet tourists, said:

"While we were becoming familiar with the Socialist Republic of Vietnam we experienced warmth and attention everywhere on the part of the Vietnamese friends."

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AIR

IL-86 BEGINS SERVICE ON AEROFLOT'S MOSCOW-NEW DELHI ROUTE

Moscow VOZDUSHNYY TRANSPORT in Russian 18 Jan 83 p 3

[Article by VOZDUSHNYY TRANSPORT correspondent B. Bychkov: "One More Regular Route Opened: The Il-86 Flies to New Delhi"]

[Text] Late in the evening on Friday, January 14, a widebody Il-86 aircraft took off from the Sheremet'yevo-2 International Airport on the first regular flight over the Moscow-Tashkent-New Delhi route. The Aeroflot flagship successfully tested this route exactly a year ago, but then our Il-86 was performing a demonstration flight brilliantly. Now the powerful 350-seat liner will begin to provide constant service on the route between the capitals of the USSR and India.

Cooperation in air service between the Soviet Union and India is distinguished by traditionally stable relationships beginning with the 1950's. This year will mark a quarter-century since the signing of an intergovernmental agreement between our countries. On 14 August 1958 a New Delhi-Moscow flight of 5,100 km opened regular service between the capitals of India and the USSR. It is gratifying to note that at that time the route was served by the first Tu-104 passenger jet aircraft in the world.

And now had come the Indian "premiere" of the Soviet widebody aircraft. On the first regular flight to New Delhi the Il-86 was flown by a crew made up of the best aviators of the Central Administration of International Air Services. It consisted of copilot Yu. Krysov, navigator V. Kapustin, and flight engineer A. Kazmerov. The ship commander was USSR State Prize Laureate G. Sheremet'yev. After seven hours of flight time the Il-86 landed at the New Delhi airport, and on Saturday at 1940 hours Moscow time the aircraft returned to Moscow. The Il-86 will make regular flights over the Moscow-New Delhi route once a week.

We will note that this is already the fourth international route where the flagship of Soviet civil aviation is operating constantly. It is already known well in airports of Berlin, Paris and Madrid.

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AIR

AEROFLOT OPERATIONS IN BURMA ; SERVICE TO RANGOON

Moscow VOZDUSHNYY TRANSPORT in Russian 19 Feb 83 p 3

[Rangoon, APN (Novosti Press Agency) especially for VOZDUSHNYY TRANSPORT by staff correspondent Ye. Popov: "At the Aeroflot Map: A Bridge 20 Years Long"]

[Text] The Mingaladon International Airport is the air gate to the Socialist Republic of the Union of Burma. Airlines from many world countries land here. Aeroflot is the largest partner of the Burmese Air Companies. Twice a week, Mingaladon greets and sends off on a distant path a powerful Tu-154 flying the Moscow-Simferopol-Kuwait-Bombay-Rangoon-Vientiane-Ho Chi Minh route and back.

It is quiet now at the airport. The scorching air envelops the building, moves imperceptibly over the concrete runway, and lazily stirs the palm leaves. The few passengers in the departure lounge are resting while awaiting their flights. A boy and girl chat quietly near a large aquarium. I go up to them and we introduce ourselves: Peter Baul and Gaby Lepscher, tourists from the FRG, are returning to Frankfurt am Main after a trip through countries of Southeast Asia. In Gaby's hand are tickets on Rangoon-Moscow flight SU-534. In response to my question as to why they are flying specifically on an Aeroflot flight, Peter answers without reflection: "It is fast, advantageous and comfortable," and Gaby adds: "It is the second year and we have seen from personal experience the truth of this motto of the Soviet airline company."

From the waiting room I head for the director of the Mingaladon international airport U Than Nve. Yuriy Safronov, assistant Aeroflot representative in Burma, accompanies me. U Than Nve affably rises to greet us. I asked his opinion about the work of the Soviet airline company in Burma.

"In my many years of work at the airport I do not recall a single instance where we were dissatisfied in some way with our cooperation. The Soviet airline company is a reliable partner. All problems are resolved quickly and on a businesslike basis," he responds.

...I ascend the steep steps to the air traffic control tower. U Ross, chief of the KDP [control tower] shift, is over the central console. Seeing us, he gives us a broad, whitetoothed smile: "Yours is just coming in for a landing."

"Yours" is our Soviet Tu-154. This is part of the native land which flew 10,000 km here from the capital of our Motherland. One second, then another goes by and U Ross points to the right with his hand, where, gleaming in the rays of the rising sun the Soviet liner appears like a diamond star out of the blue.

There is heavy radio traffic between the KDP and the aircraft. I ask assistant shift chief U Maung Lat for his opinion about working with Soviet crews.

"We have different native languages but we understand each other excellently. The Russian lads are real pilots, and this is the general opinion of the shift."

The roar of powerful engines fills the airport. The aircraft taxies to the hardstand. A ladder is brought up and flight attendant A. Deryugin appears in the door and solicitously helps the passengers emerge from the aircraft.

The room for through passengers comes alive with a many-voiced, multilingual talk. Among the passengers are many tourists from countries of Western Europe, workers in Soviet foreign establishments and student youth from developing countries.

I go up to a Soviet woman who has flown in from Moscow and inquire how she feels. In response Nelli Tkach jokes:

"I am a physician and am accustomed to asking this question myself, and not answering it. I feel excellent. We flew very well. Many thanks for this to the aircraft crew and especially the captain, Pilot 1st Class Aleksandr Alekseyevich Yudin."

Not an hour goes by and the aircraft separates from the runway and heads into the cloudless sky. Ahead lie Vientiane and Ho Chi Minh. Aboard the aircraft are Soviet engineer-technical personnel and physicians, and in the cargo compartment are drugs and equipment--the Soviet Union's fraternal help to developing socialist countries...

Twenty-one years already have passed since that memorable day when the Moscow-Rangoon air route was opened on 31 January 1962 and the veteran of Soviet civil aviation, the Il-18, made the first landing on Burmese soil. Since then more than 2,000 flights have been made. The volume of passenger and freight movements grows from day to day. In just the last three years passenger departures increased 60 percent. The income of the Aeroflot representation in Burma for air movements rose 50 percent in 1982 in comparison with 1980.

Sergey Andreyev, Aeroflot representative in the Socialist Republic of the Union of Burma, says proudly that last year the representation overfulfilled the plan for passenger and freight movements by 35 percent. With regard to prospects for cooperation between our countries, he says:

"We try to take full advantage of all existing opportunities to expand cooperation with local airline companies. We are placing great hopes on commercial rights obtained in November 1982 on the Kuwait-Rangoon leg. Another important point in the cooperation is an exchange of delegations between our countries and particularly the recent visit by a delegation of the Burmese Department of Civil Aviation headed by general director U Tin Nyutom, which visited Moscow and Leningrad late last year at the invitation of the USSR Ministry of Civil Aviation."

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'URAL-3' EXPERIMENTAL DIRIGIBLE CRANE TESTING CONTINUES

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 8 Feb 83 p 1

[Article by SOTSIALISTICHESKAYA INDUSTRIYA correspondent A. Mal'tsev, Sverdlovsk: "The Dirigible Returns to the Air"]

[Text] "Look! Look!.."

The residents of Berezovskiy and later of Sverdlovsk had something over which to be surprised. An unidentified object resembling either a balloon flattened on the sides or a fat wing in a vertical position floated swiftly at an altitude of 400 m. Below, as if gripped in the claws of an enormous bird, could be seen the metal mast of an electric power line. It appeared that it had just been pulled out from its site by the roots.

But for those who could answer the questions of those who were perplexed these minutes were full of no small amount of concern. They knew that an operating model of the "Ural-3" transportation-installation flying craft was in flight and that people were in its gondola, and that what was happening had not been covered by the test program.

"We were supposed to fly about 600 m at low altitude and test mast installation techniques," said crew commander A. Domakov later. "But a gust of heavy wind made 'corrections' to the program. Our low-power motorcycle engines which had been suitable for a light wind could not withstand the powerful air flow and the craft was carried off. What was to be done? Make an emergency descent? Or take advantage of the surprise conditions for testing the craft's reliability in an emergency situation? We decided on the second version, especially as such a test was covered by the program at the end of the testing..."

Former military pilots A. Domakov and A. Tomshin who were in the gondola felt much calmer than their comrades on the ground. D. Bimbat, the test director and author of the project, chief of the Ural Experimental Design Department of Fabric-Film Structures of the All-Union Orgenergostroy Institute, did not leave the radio while keeping contact with the crew. The craft was monitored continuously over the entire route and helicopter pilots were ready to lift off immediately.

The crew continued the flight confidently. Dirigible building enthusiasts A. Domakov and A. Tomshin believed in the reliability of their craft and tried to control it. They spent some 40 minutes in the air and flew several dozen kilometers. The dense network of electric power lines, homes, roads with heavy traffic and forest masses hindered them from making a landing. It was only not far from the Kol'tsovo airport, after noticing a small empty space and a settlement nearby from which it was possible to report their location,that the crew decided to land.

The flight was successful in the specialists' appraisal. Conceived by enthusiasts, the craft proved its reliability and controllability under difficult conditions. It had been built not at an aviation plant but by their own hands; for example, the skin had been made by workers of a machine shop under the direction of foreman V. Kaurova.

Bimbat, who had occasion to design and build the first dirigible in postwar times for the filming of "Engineer Garin's Hyperboloid," infected the group with the idea of creating such a craft. He believed that such "flying cranes" would be irreplaceable in construction, the problems of which were being worked on by the department. Hence the unusual shape of the "Ural-3": It provides stability in performing installation operations.

"In making the 'Ural-3', our group worked out many fundamentally new solutions and included them in its design," says Bimbat. "For this reason the craft is more practical, reliable and safer than the dirigibles built earlier. It doesn't need a mooring mast or ballast. As tests have shown, it can ascend and land on areas with a diameter of only 50 m."

Economic calculations also speak in favor of the "Ural-3." The installation work it performs will cost three times less than with the help of a helicopter. Deliveries such as that of drilling rig units from Uralmash to parts of Western Siberia difficult of access promise a saving of more than three million rubles annually.

"The modular principle can be used to increase the load-lifting capacity of the 'flying installers' by making them out of several similar craft," continues Bimbat. "For example, in reconstructing operating enterprises with the help of such a dirigible it is possible to raise the roof from a shop, install heavy equipment and return the roof to its place..."

Tests of the "Ural-3" are not yet completed, but its designers already are thinking of making a general-purpose craft which could be used for delivering freight over short distances, for installation and for other similar work.

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INSTITUTE TESTS MODEL OF TURBOPROP PLANE WITH AIR CUSHION LANDING GEAR

Moscow NEDELYA in Russian No 6, Feb 83 p 5

[Article by A. Abdullin, Riga-Moscow: "Aeroflot News: Air Cushion Aircraft"]

[Text] An unusual craft--an aircraft with air cushion landing gear--was designed in the student design bureau of Riga Red Banner Institute of Civil Aviation Engineers. It can come in very handy on air routes of the Far North and other remote parts of the country. It can land in the tundra and take off from snowcovered reservoirs or from an ice surface. It can descend on the smooth water surface of rivers and lakes like a seaplane and soar into the sky from the ground. The ordinary landing gear was replaced with an air cushion formed beneath the fuselage during take-off and landing.

Specialists figured that the economic effect from the use of six such aircraft for monitoring the technical condition of underwater petroleum and gas lines with the help of electronic gear installed aboard is some two million rubles annually.

Let's take a look at the cabin of this aircraft. There are five comfortable seats, with the sixth intended for the pilot, the only crew member (flying the plane has been simplified to the maximum). The passenger seats can be folded and up to 500 kg of small cargo can be accommodated in the cabin.

A 325 hp turboprop engine is installed in the aircraft. The air cushion beneath the fuselage is created by an axial-flow fan, with a third of the engine's power used to rotate its impeller.

The aircraft's take-off weight is 2.2 tons, the length is 14 m and wingspan is 11 m. With one load of fuel it can make 600 km flights at a speed of 150 km/hr.

A large-scale model of the new aircraft (in photo [photo not reproduced]) was tested successfully under actual conditions. It is shown at the USSR VDNKh [Exhibition of Achievements of the National Economy].

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RAILROADS

FINNISH FIRMS BUILDING LOCOMOTIVES FOR BAM

Helsinki HELSINGIN SANOMAT in Finnish 1 Mar 83 p 25

[Article by Antti Blafield: "Locomotive Cooperation Leading to New Major Trade"]

[Text] Novocherkassk--After a heated dispute parliament decided in 1970 to order the electric locomotives needed by the State Railways from the Soviet Union. The 100th electric locomotive was turned over to the Finns last Wednesday.

The electric locomotive trade has become one of the first first joint Finnish-Soviet industrial projects. Now the locomotive trade is generating a new large transaction for Stromberg. The company's Pitajanmaki Plant is already building control systems and motors for a gigantic locomotive intended for use in Siberia.

Director Viktor Yanov of the research institutue of the Novocherkassk Locomotive Plant is a handsome, short, curly-haired gentleman, who has an infectious, bubbling laugh. He directs a 2,000-person electric locomotive institute, which has been responsible for the planning of 99 electric locomotives operating in Finland.

Viktor Yanov knows the meaning of working with Finns, particularly Finnish locomotive operators of the Finnish State Railways. He condenses his experience into four Finnish expressions: "Good day, the devil, excuse me, and have a good trip."

The 100th electric locomotive manufactured by the Novocherkassk Plant for the Finnish State Railways was turned over to the Finns on Wednesday, 23 February.

Even though the 100 electric locomotives delivered to Finland are only a percentage of the number of electric locomotives produced so far in Novocherkassk and a little less than one-third of its anuual production, the 5 years spent in planning and the 10 years in production have meant a transition to a new generation of locomotives for Soviet electric locomotive production.

Now the Novocherkassk Locomotive Plant is applying the experience and knowledge gained from these Finnish locomotives to their own electric locomotives.

The Novocherkassk Electric Locomotive Plant was established along the Don 50 years ago. According to Soviet calculations, it has over the years produced more than half of the whole world's electric locomotives. Before Finnish railroad officials dug out an atlas and found Novocherkassk from the index, only locomotives for freight trains had been manufactured there.

When the Finns determined where in the world Novocherkassk, the former capital of the Don Cossacks, is, they announced their desire to visit the city and meet the leadership of the local locomotive plant in person. The Finns were in need of a locomotive which would be sufficiently light so that it would not break down railroad bridges, sufficiently low so that it would pass through railroad tunnels, sufficiently fast so that it could pull a passenger train, sufficiently strong so that it could pull a freight train, and sufficiently modern so that it would not become obsolete before the end of this century.

National Interest

In 1968 Mauno Koivisto returned from his visit as prime minister to Moscow and announced that national interest demands the procurement of electric locomotives from the Soviet Union.

It was only just a few days before that it was confirmed in the Soviet Ministry of the Electric Industry, under the jurisdiction of which the electric locomotive plant operates, that it would be in the interest of the country to obtain this locomotive order from Finland. And not necessarily because the Soviet Union would have needed the approximately 7 million markkaa paid in current money for each locomotive, but because the Finns demanded so much.

The production leadership and the planning personnel, who designed the slower, higher, heavier, and more obsolete locomotives from the point of view of electrical engineering, appealed even anxiously to the Finns to convince their own politicians that it would be better to place this peculiar order in their own country.

However, Georgi Aleksandrovich Berdichevskiy, the director of the Novocherkassk Locomotive Plant at that time, knew more than the plant's production leadership since he was also a member of the Supreme Soviet, the parliament of the USSR. He knew that there were plans to implement a law which would give plants conducting foreign trade a portion of the Western currency earned for their own investments.

Now locomotive parts at the Novocherkass Locomotive Plant are being moved with Kone's hoisting gear and are being machined with Swiss machine tools.

When Finland decided to order 27 electric locomotives from the Soviet Union in 1970, the concept of Finnish-Soviet industrial cooperation was still unknown. The economic commision between the two countries had been established only 3 years before.

The Soviet Union itself was not able to build the electric control mechanisms for the locomotives. This equipment operating on the basis of semiconductors was a part of that very technology and its application with which the Soviets wanted to become familiar.

The Soviets ordered the control mechanisms from the West. The Swedish firm Asea and the Finnish firm Stromberg were in the final running in the bid competition. On the day before that the Soviets were to announce to the State Railways who will deliver the control systems, they broke off the negotiations with Stromberg since the Finns demanded too high a price. However, surprisingly on the following day they once again made contact with Stromberg and an agreement was reached that each party would submit a last and final bid. When the envelopes were opened, it was noted that the difference was tolerable and the conflict was divided in two. At this time the proportion of Stromberg's equipment in an electric locomotive is worth approximately 1 million markkaa.

Thus Stromberg received a series production order lasting more than 10 years. Also it opened the way to a new technology and Stromberg became familiar with the secrets of automatic control engineering in electric locomotives.

Siberian Giant

Now Stromberg has a foot in the door in a completely new major transaction. In April 1981 Stromberg and the Soviet export organization Energomasheksport signed an agreement on a prototype for a new electric locomotive.

While a locomotive operating on the Finnish State Railways has four axles, weighs 84 tons, and is 19 meters long, the new locomotive will have 12 axles, weigh 300 tons, and will be 45 meters long. When it is completed, it will be one of the world's largest electric locomotives. It will be capable of pulling approximately 120 four-axle freght cars, a train approximately 2.5 kilometers long. The intent is to use these railroad giants on the Baykal-Amur Trunk Line, which will be completed at the end of next year. This more than 3000-kilometer long BAM line will join the western part of the Soviet Union to the sources of raw materials in Siberia.

Stromberg will furnish the control systems and motors for the prototype.

The systems in the electric locomotives operating in Finland as well as in all the electric locomotives operating elsewhere in the world function on direct current. Now Stromberg is furnishing the Novocherkassk Plant with control systems which will function on alternating current.

"What is in question is the dream of every electrical engineer throughout the ages: how to make a short-circuit motor function so that it can be regulated on a stepless basis," states Assistant Managing Director Allan Melart of Kontram, which has acted as the intermediary for the State Railways in the transactions involving electric locomotives. "Now the question of operating an electric locomotive with a washing machine motor has been resolved," explains Esa Piiroinen, chief of the machine section of the State Railways.

Stromberg's alternating current technology is captivating the Soviets since an alternating current motor is easier to maintain and its operational reliability is greater. These factors are of primary importance on the Siberian line. Operational reliability is very important on a railroad line stretching thousands of kilometers and intended for the operation of trains at intervals of only a few minutes.

The preliminary agreement signed in 1981 guarantees that if the Soviets are satisfied with the prototype, they will be obligated to order control systems from Stromberg for at least 33 gigantic locomotives.

The Small Can Be Big

The price of a control system for one locomotive will be approximately 10 million markkaa. Thus it is no wonder that in addition to Managing Director Antti Potila of Stromberg, three other directors from Stromberg were present at the ceremonies for turning over the 100th locomotive to the Finns in Novocherkassk, a distance of 3,000 kilometers from Finland.

At this time Stromberg is the leader in alternating current technology in the world. An example of this is that the Soviet Union has ordered control systems for cable cars operating on alternating current technology from Stromberg and last week it was learned that the City of San Francisco has ordered control systems from Stromberg for the prototype of a cable car operating on alternating current technology. Also a train operating on the same technology is being planned for the New York subway.

Also it was no wonder that the Finnish delegation led by General Manager Herbert Romer of the State Railways, which included four Stromberg directors, was in Moscow to accompany two vice ministers of the Soviet electrical industry on their trip home.

Stromberg's directors listened with amazement to the toasts given by their Soviet hosts at the farewell dinner. When one minister mentioned locomotives, another immediately called out cable cars, and a third host followed this up with subways.

It was also no wonder that Herbert Romer had invited Chairman Lasse Syrjanen of the Locomotive Operators' Union and shop steward Veikko Savolainen to join the delegation.

When the negotiations with the manufacturers of the Soviet electric locomotives became difficult and the other side began to become impatient with the numerous Finnish demands, the State Railways could appeal to the locomotive operators who drive the locomotives for help.

It is just on the basis of these demands of locomotive operators that over a period of 10 years the ventilator motors, window washers, seats, sound and thermal insulation, and the control panel on the dashboard, among other things, have been renewed and redesigned.

The locomotive operators had good reasons for their demands. Even as recently as the middle of the last decade 43 percent of the locomotive operators had to retire on a disabililty pension before the age of 53. Now this number has been reduced to 30 percent.

The management of the Novocherkassk Locomotive Plant has named Veikko Savolainen with his unceasing demands the Ataman of the Don.

The electric locomotives are still being modified in Finland. The machine shop in Hyvinkaa has already completed 62 modifications and there are still approximately 100 modification jobs in the works.

It is for this reason that the Novocherkassk Locomotive Plant sent Viktor Yanov, the director of its research institute, to Finland for 4 years to supervise operations during the warranty period of the locomotives.

The maintenance interval of the locomotives has increased from 300,000 kilometers to 600,000 kilometers in a period of 10 years.

At the same time that two vice ministers accompanied the 12-member Finnish delegation, which was celebrating the production percentage of a southern Russian locomotive plant in Moscow's Leningrad Hotel, 250 high-level Japanese business leaders were standing around the lobby of the Inter-Continental Hotel, located on the shore of the Moscow River. The Japanese were mounting their biggest trade assault ever in Moscow.

Two events on a Moscow night graphically depict that the small can be big for even the big.

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BRIEFS

NEW TANKER LAUNCHED—The fleet of the Caspian Maritime Steamship Company has been enlarged by addition of the tanker "General Sabit Rakhimov." The ship was built on the dock of the Volgograd Shipyard. The tanker has a cargo capacity of 4,500 tons. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 50, Dec 82 p 3] 11176

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